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TIMES PAST — THE TIMES

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Sweden's way to knowledge

"Knowledge policy and knowledge traditions in higher education" was the puzzling title chosen by Sweden's National Board of Universities and Colleges as one of the themes for an international conference it organized earlier this month. "Knowledge policy", the first part of the title, is an absolutely unfamiliar term in Britain; "knowledge traditions", the second part, is almost as unknown outside the ranks of philosophers of science and those with a particular academic interest in social interpretations of knowledge.

Yet the issues that are disguised by these unfamiliar terms are not obscure. The most profound perhaps is how to reconcile the rival attitudes of theory and practice; the most practical how to cope with the worldwide phenomenon of "academic drift", to give it its British name, or "Scientification", to adopt a more internationally understood term; the most important how to balance the morality and the rationality of scholarship and science.

The post-war expansion of higher education sucked in training in professions that played no part in the traditional university, partly because the growing sophistication of knowledge and the increasing elaboration of these professions required higher level training, partly because the pressures of upward occupational drift and credentialism obliged these professions to "gain" higher education or else relative status.

The rise of the para-professions has been accompanied by other equally radical phenomena. The widening of the student base has led to demands for a broader undergraduate curriculum, which because of the explosion of knowledge is a very different enterprise from the liberal education of half a century ago. The social ambitions of the old humanities have been revived by the social sciences, but in a much more sharply contested form. Music, art and other expressive subjects have been more fully incorporated into the mainstream of higher education.

So in most advanced countries since 1945, and most powerfully since the 1960s, higher education has been invaded by new intellectual values, practical, aesthetic, ethical, social, which have been regarded by some as subversive of the austerely academic and scientific values embodied in the university. Of course, this tension is not new. Practical values have always had a place in the university; the theoretical sciences grew out of the practical sciences, not the other way round, and extra-scientific values have always exercised considerable influence over the priorities and progress of individual disciplines and over the social shape of the university.

But this tension between theory and practice, between science and other traditions of knowledge has perhaps only been made fully explicit as a result of the post-war expansion of higher education. In Britain, we may have always had a binary policy that in some degree institutionalized this tension, but it was only in the 1960s that we felt the need to give it explicit formality.

The Swedes, of course, adopted an anti-binary policy. During the 1970s they formed comprehensive universities which incorporated these newer and less academic subjects and also many formerly independent research institutes. Yet academic drift is common to both countries. In Britain it may be a subversive process in the sense that the binary policy is designed to mitigate it while in Sweden it may be almost compulsory as (nearly) all new teachers have to have PhDs and all programmes a research component. But the outcomes are remarkably similar.

However, academic drift is only half the story. The other and perhaps more important question provoked by this new theme of "knowledge policy" is whether higher education has become dominated by an over-narrow scientific tradition, a tradition that is mechanistic, amoral, and dismissive of values that cannot be reduced to reason. This is a very complex question that must take into consideration the development of a powerful research culture, the erosion of the once incestuous links between traditional universities and a privileged social order, and similarly profound trends.

However, there is one overarching question that is worth considering. To what extent is there an inevitable tension between the severely cognitive values of more traditional academic disciplines, particularly in the natural sciences, and the less cognitive values of the older more humanist and newer more practical disciplines? Or is the tension that certainly does exist a secondary phenomenon, the expression of the particular social hierarchy that has been attached to different styles of knowledge?

These are important questions. It is one thing to say that physicists or historians enjoy higher status than those engaged in social work or nursing. But it is quite another to claim that the former are distinct or superior expressions of knowledge. If it is just the former, the policy strategy should probably be tilted towards the Swedish comprehensive solution; if the latter, towards the British binary solution.

But can science provide a secure and unambiguous basis for the cognitive superiority of the former? Or, conversely, is it fair to depict science as some kind of Cartesian moloch which is the inevitable enemy of extra-academic values that are based on individual or collective morality, or unreflective practice, or aesthetic sensibility? These are the core questions of "knowledge policy and knowledge traditions" which the conference in Sweden tried to address.

> 'Technocratic ambition has to be distinguished from the tradition of scientific inquiry associated with Descartes and Newton'

It is important to make a distinction between the means and the ends of science, between its principles and its ambitions. A starting point for many people engaged, knowingly or not, in "knowledge policy" is the poverty of technocratic thought. It aspires to provide a complete intellectual description of the natural world and of man's place in it, but it can only succeed by the sustained inhibition of our moral imaginations. Moreover it confounds the reality it seeks to explain because we so clearly do not live in a rational world. So "knowledge" can never be reduced to reason.

But such technocratic ambition has to be distinguished from the tradition of scientific inquiry associated with Copernicus and Bacon, Descartes and Newton. The search for provable truth, or at any rate disprovable falsehood, is both central to the mission of the university and the foundation of a secular, free and dynamic society. Science is by its very nature modest and tentative. Its most important principle is Karl Popper's "I know that I do not know". All the rest is provisional knowledge that may one day be replaced by more satisfactory explanations.

So science is not the enemy of intuition or imagination. Indeed it positively encourages both. It does not matter (to science) if many of the crucial importance to society) how or why a new hypothesis is conceived; only that it can be tested or falsified. Science does not despise metaphysical questions like "does God exist?" although it cannot answer them through a process of reason. Nor is high-tech medicine or nuclear power inherently more scientific than low-technology healing or alternative sources of energy.

A second distinction must also be emphasized. Our present "knowledge tradition" is a broad church that includes more than positivistic science. "Knowledge" can certainly be based on reasoning and experiment; but it can also be based on faith or tradition, ethical values, practical experience and aesthetic sensibility. Individual disciplines or traditions of professional education generally incorporate ingredients from several of these distinct forms. Physicists and mathematicians will insist that their subjects have an aesthetic quality, while we do have theology departments even though it is impossible to prove or disprove the existence of God.

The state of Marxism illustrates the complexity of knowledge. Marx's detailed predictions can be tested, but his overall conception remains perhaps a metaphysical one. In eastern Europe Marxism has become a faith or compulsory tradition, while everywhere some people have chosen a Marxist perspective as a matter of ethical choice. So what emerges is a deeply interwoven intellectual tradition that incorporates different styles of knowledge.

Knowledge traditions, moreover, are barely traditions at all. They are volatile, constantly changing, and at their best constantly subversive of their own concepts and data. So perhaps the best way to regard our knowledge tradition is as a spectrum of disciplines, some more some less cognitive, and each discipline in turn as a spectrum of values, cognitive, dogmatic, ethical, practical and aesthetic. And these spectra between and within disciplines are constantly changing under these same pressures, reason, tradition or authority, morality, aesthetics.

If these two conclusions, that the methods of science cannot be described as imperealist whatever may be said of the ambitions of technology and that our knowledge tradition is much broader and more liberal than many imagine, are accepted, there are important implications for "knowledge policy." They lend little support to the idea of a permanent binary policy (or its American equivalent of a chaotic but infensely hierarchical diversity of institutions), because they suggest that it is not possible to distinguish clearly between different knowledge traditions and also that the dominant "academic" culture is much less formidable and more flexible than such a policy suggests.

These conclusions also cast a new light on the very necessary efforts to reinforce or recreate the humanism of higher education. They suggest that science is not the enemy of such efforts and that within our present knowledge tradition there is plenty of room for extra-scientific values. Indeed the modesty and tentativeness of true science are a guarantee that this room will always be found. So to build these efforts round an anti-science crusade is not only dangerous because it is a sure road to a ridiculous marginality within higher education but also unnecessary.

Against this background, the Swedish way seems to make more sense than the British way. It is based on the recognition that the university tradition is a broad church and the task is to make it broader still. But perhaps this seems more feasible and hopeful in social democratic Sweden, in Britain in contrast we have invented distinctions that are difficult to defend in principle and which potentially frustrate and stigmatize the efforts of one third of higher education "while corroding the already leaky wall of liberalism on the other".

Laurie Taylor



Ah, there you are. My word, it's nice to have a pleasant day for a change. Still, it is supposed to be Midsummer's Day. Now then, how's the big wide world treating you?

Quite well thank you, Sir . . . apart of course from this little matter.

Quite. Quite. I'm sure we will be able to sort it all out to everyone's satisfaction. What exactly seems to be the problem?

Well, Professor Lapping, as I explained in my letter to you, I was thinking of appealing against your decision to fail my doctoral submission.

Appealing?

Yes, sir.

Against an academic decision?

Yes, sir. But first of all I want to know exactly why I failed.

Well, as you know, Norman – it is Norman isn't it? – yes, I thought so – never forget a face – *yes*, although the *actual* details of the examiners' report have to remain confidential – and I'm afraid that's a matter of University Statutes – nothing you or I can do about it, much as we might want to – I *am* prepared to tell you – strictly off the record, you understand – that it was fair to the examiners – *both* internal and external, I might say – there was some unanimity on this point – that your work was not quite up to doctoral standard by virtue of its unsatisfactoriness.

I see.

Between ourselves, Norman, I think it might also be safe to say it was felt to be just a little below standard.

For any specific reason?

Yes, I think one might say – and please don't quote me on this – but basically because of its unsatisfactoriness. Does that clear up your little problem?

I'm afraid not, sir. I still feel that I would like to make a formal appeal.

Yes, well, that's your right. As you know, unlike some other institutions we do indeed have an appeal procedure which may be set in motion. But first a case must be made. Are there any clear grounds?

I received no help at all from my supervisor.

Well, yes. But ideas of "help" are always relative, Norman.

He never once asked to see me during the entire three years.

Mmmmm. As you know, Norman, supervision is always a two-way process.

But he failed to respond to 11 letters.

Post can go astray.

And refused to reply to 14 phone messages and failed to return three draft submissions of my eventual thesis.

There certainly does seem to be *prima facie* evidence of some misunderstanding there, Norman. In the circumstances I'm happy to allow you to continue to the formal stage of the Appeal – an Appeal which, I might add, is designed in such a way as to mirror the type of objective and rational criteria which lie at the heart of our graduate assessment. You understand?

Yes, sir.

Fully?

Yes, sir.

Fine. If you'll just roll up your sleeve, I'll get my secretary to bring in the bucket of boiling water. *Rosemary!*

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Industry link needs 'big money'

by Jon Turney
Science Correspondent

More money for successful institutions and tighter control over research strategy are the main prescriptions for enhancing links between industry and higher education in a report to the Government this week from its two main science policy committees.

As expected, the report from a working group of the Advisory Council for Applied Research and Development and the Advisory Board for the Research Councils calls for two new multimillion pound funds to encourage universities and polytechnics to fight for industrial contracts.

But it also makes clear that the money will only go to institutions which can show real efforts to tailor their research more to industrial needs.

Sir Alan Muir Wood, the group's chairman, said: "We want to see a pleasure of corporate strategy on the university's scene."

The working group, set up last summer at the Prime Minister's request, concluded that the initiative for forming new academic-industrial links lay with higher education institutions. To ease the way it proposed an "industrial seedcorn fund" worth 25p in the pound for institutions which won industrial contracts, starting at £10m a year and intended to rise to £25m within five years. This would be funded by the Department of Trade and Industry and the Department of Education and Science and administered by the Science and Engineering Research Council.

It also advocates a second "pump-priming" fund making £5m a year available for schemes designed to promote commercial links in individual institutions. A similar scheme has already been formulated within the DTI and is likely to be approved soon.

In universities, the report says the University Grants Committee should earmark money for research and that this should be set at a level which allows average academics to spend 30 per cent of their time on research.

Work done in each university should be scrutinized by institutional research committees, as advocated in the Merriss report last year and the ACARD study says universities should reallocate research effort to give "a better balance between basic and more applied research".

The report also calls for a clearer definition of the polytechnics' role in industrial research, including arrangements for earmarked research funding and a change in the law to allow polytechnic's to negotiate contracts and consultancies.

Encouragement for industry to respond to these initiatives rests mainly on exhortation. The report says the Confederation of British Industry, the Royal Society of Arts and similar bodies should urge firms to exploit academic expertise.

Mr Geoff Purkitt, chairman of the University Directors of Industrial Liaison, said that the pump-priming fund was exactly what was needed.

Mr John Akker, deputy general secretary of the Association of University Teachers, also welcomed it.

Promoting Research Links Between Industry and Education and Industry, HMSO £4.95.

'No merger, no cash' threat to defiant Ulster

by Ngaio Crequer, David Jobbins and Paul McGill

Ministers this week threatened to withdraw funding from the New University of Ulster if it sets its face against a merger with Ulster Polytechnic.

Their determination was made clear after the NUU court failed to give the three-quarters majority needed to give constitutional backing to the proposals.

The planning process will now continue without the NUU and the Department of Education (Northern Ireland) said student intakes would not be funded from October 1984, the target date for the opening of the new institution.

Sir Peter Swinnerton-Dyer, chairman of the Ulster steering group, washed his hands of the NUU and declared that a new university would still be created, based on the polytechnic alone.

He spoke only hours after learning of the NUU court decision. The vote was 71 – 41 in favour of going ahead, but this was only a 63 per cent majority. Despite support from the senate, the council and the campus unions, a sufficiently strong rally by local MPs and business people on the court blocked the plans.

Sir Peter's determination to go ahead was backed by Mr Nicholas Scott, parliamentary under secretary of state. He said the court's decision was an obstacle to NUU's involvement in the creation of a new institution, but it would not be allowed to create any doubt or uncertainty about future plans for the province.

"The government decision in March last year that the future structure of higher eduation in Northern Ireland should comprise two major university institutions, the Queen's and the new institution functioning with a complementary relationship, still stands," he said.

Prominent among those against the merger was Mr William Ross, official Unionist MP for Londonderry. He said his opposiotn was based on the failure of the Government to provide essential information on costings, distribution of courses between the various parts of the new institution, and the safeguarding of academic standards.

Mr Ross accused ministers of using "blackmail" by threatening to cut off the NUU's funds. He would certainly vote against the merger again if more information was not forthcoming by July 21, when the court is to meet again.

On Tuesday he appealed to the Prime Minister to look again at the merger and is to seek an adjournment debate.

Mr Scott gave the steering group full authority to proceed with the new institution on the established timetable. Sir Peter said the court decision had left only two options, to try to get round the court by legislation, or to proceed without them. He was not prepared to wait for the NUU to change its mind.

Brunel curtails its advice

Brunel University is to exclude from its welfare booklet given to new students information about the Citizen's Advice Bureau; the Community Relations Council; the Contraceptive Advice Clinic; mental treatment; the Family Planning Clinic; the International Student Houses; Link (a counselling service); Release (advice on drugs); and VD clinics.

According to student union president John Flanagen, the university welfare and amenities committee also wanted to get rid of reference to the "Samaritans." But after long argument, with the student representatives saying they would hold the university responsible if there were any student suicides, they gave in.

"I am amazed that they want to do this. They want to return to the Victorian era."

Professor J. Burnett, chairman of the committee said they wanted to give emphasis only to those agencies available in the university.



Mr Harold Macmillan, chancellor of Oxford University, with Lord Briggs, provost of Worcester College, during celebrations of the seven hundredth anniversary of the founding of the former Benedictine Gloucester College. Worcester now occupies some of its buildings.

University and poly chiefs call for local collaboration

by John O'Leary

The polytechnic directors and university vice chancellors this week took the unprecedented step of issuing a joint statement in support of local collaboration between their institutions. But they came out against national arrangements linking the two sectors.

The five-page report, signed by Dr Albert Sloman, chairman of the Committee of Vice Chancellors and Principals, and Dr William Birch, chairman of the Committee of Directors of Polytechnics, is based on the work of a joint working group.

It finds that the sharing of teaching provides the greatest scope for cooperation at undergraduate level and forecasts an increase in such activity when small departments, such as certain modern languages, are threatened with reducton or closure. Some specialized joint degrees are also contemplated.

Several areas of existing collaboration are listed, including the sharing of laboratory equipment and the joint planning or teaching of postgraduate courses. Student services, library facilities and some research activity are also highlighted as examples of areas of sharing.

National controlling bodies are asked to provide a structure which provides maximum flexibility in the use of resources to encourage further initiatives. It adds: "And above all, we ask that they do not inhibit institutional cooperation by imposing some formal coordinating machinery which is insufficiently flexible to accommodate the wide variety of existing links."

Birch resigns from NAB in surprise move

by Felicity Jones



Dr William Birch, chairman of the Committee of Directors of Polytechnics, has resigned from the board of the National Advisory Body in a shock move.

The news, contained in a confidential letter to Sir Keith Joseph, Secretary of State for Education, is the first blow to the NAB as it begins to construct a national plan for public sector higher education.

In the letter, a copy of which went to Mr Christopher Ball, the board's chairman, he is believed to have given similar reasons to those put to Sir Keith in the name of the CDP at the end of May.

The last meeting of the CDP discussed the option of withdrawing completely from the NAB but rejected it.

Instead Dr Birch outlined in letters to Sir Keith and Mr Ball the CDP's dissatisfaction with the way in which the NAB was being run. He wrote about the inadequate resources made available to the maintained sector and about the committee's disquiet about the procedures of the NAB board.

Dr Birch later discussed with Mr Ball the issues raised in his letters, which included increasing the membership of the board, the need for a declared board policy on the national role of the polytechnics and talks involving the universities, which would soften the binary divide. A subsequent board debate was thought to have defused the situation.

It was generally known that Dr Birch had been unhappy for some time with the stance of the board on these issues and with his role within it. But other directors were taken aback by the news.

Dr Michael Lewis, the CDP secretary, knew nothing of the sudden decision of his chairman. He pointed out however that although Dr Birch was nominated by the CDP the appointment was made for him to serve in a personal capacity.

A small group of polytechnic directors was aware of Dr Birch's plans, including Mr Geoffrey Hall of Brighton Polytechnic. He said: "While I can understand his wish to resign from the NAB board because of his frustrations with the deliberations, I nevertheless feel that it is a sad decision."

The questions of Dr Birch's resignation and the nomination of a successor will be discussed at next Tuesday's NAB committee meeting. It will be the first chaired by Mr Peter Brooke, the new under-secretary of state for higher education. Dr Harold Law, the vice-chairman of the CDP and director of Portsmouth Polytechnic, is a likely candidate.

Dr Birch was not available for comment this week.

News in brief

Longer hours peace formula

Hopes rose this week of an end to the dispute over longer teaching hours at Croydon College where dismissal notices have been issued to all 300 lecturers.

Lecturers have now been offered a compromise which means an extra hour's class contact for existing staff, but two extra hours for anyone joining the staff after September.

The Natfhe branch is to consider the offer next week – but the negotiators are not at this stage recommending acceptance. It is understood that if the union takes the issue to the Advisory, Conciliation and Arbitration Service, the new offer will be withdrawn.

Rhodes meet

More than 800 former Rhodes scholars and their families from the Commonwealth, West Germany, and the United States have been celebrating the 80th anniversary of the academic foundation in Oxford this week.

Cecil Rhodes, who made his fortunes from the mines in southern Africa, left a £4m bequest to fund the scholarships. He wanted scholars elected for qualities of manhood, moral character, and love of manly sports, as well as academic merit. Women could not be considered until the terms of his will were altered after the *1975 Sex Discrimination Act*.

A-level warning

Higher education institutions and employers are warned today that the A-level grading scheme is preventing examination boards from discriminating properly between candidates at the critical mid-point of the scale.

A booklet published by the Joint Matriculation Board claims that the narrowness of the grade C band, which normally contains 10 per cent of candidates compared with 15 per cent in the two bands on either side, is the major weakness. It wants the central grades to cover equal proportions of marks.

Degree protest

Students at Sussex University have publicly dissociated themselves from the award of an honorary degree to Malaysian deputy prime minister Mr Muta Hisam in protest at his record on human rights.

They say he has been responsible for the detention without trial of thousands of political opponents, the suppresion of basic rights of lawyers, academics and students, and the administration of a system of justice which lead to the execution of at least 35 people.

Extra security

Bristol University is to appoint seven additional security staff because of "the recent attacks made upon the university." There have been a number of demonstrations recently at the university involving the animal liberation front. In a separate incident one office has been burgled.

First duty

Mr Peter Brooke, under secretary for higher education, performed his first public ministerial duty when he opened a House of Commons exhibition mounted by Trent Polytechnic's department of visual communication and the Freshwater Biological Association. The opening was attended by members of both Houses of Parliament and members of the Natural Environment Research Council, which largely finances the FBA.

Liberal post

Mr Graham Watson, a 27-year-old PhD student at Paisley College of Technology, has become personal assistant to Liberal leader Mr David Steel. Mr Watson will also be secretary to the parliamentary Liberal party and will help coordinate party policy.

BTEC is quick on the draw

by Felicity Jones

The Business and Technician Education Council has made a statement, even before it has officially taken up its responsibilities, calling for a strong work-related non-degree provision in any reshaping of the maintained sector higher education system.

A meeting of the council last week, whose membership is drawn heavily from industry and commerce as well as education, viewed with growing concern the proposals being put forward for the future shape of the system which suggest that through "upward academic drift" the needs of employers and professional bodies could best be met by an all-degree system.

As an alternative to this view, the council want to see a positive strengthening of work-related higher education as a national priority maintaining that the government, employers and trade unions have "long been united in their criticism of the education system's failure to ensure sufficient industrial and commercial relevance in courses".

The BTEC has shown its cards at this early stage when the future of local authority higher education is being decided through the National Advisory Body even though the council does not take over from the former Business Educational Council and Technician Education Council until October.

The remit given to the new council by the Secretary of State for Education and Science was to advance the quality and availability of work-related education for those in or preparing for employment.

With BTEC expecting to cater for some 150,000 new students annually in a range of courses relating to commerce and industry, it has a vested interest in making its position known at this crucial stage of those discussions over the future of higher education.

It points to the government strategy on the one hand to reduce the funding to maintained sector institutions while on the other wanting to increase the number of trained technicians who can make a contribution to economic growth.

The council argues for an increase in the current level of BTEC higher national certificate and diploma courses through consultation with employers, local education authorities and colleges so that the courses reflect the changing needs of industry.

Its programme of two-year fulltime and three-year sandwich and part-time courses will, it believes, also enable "scarce staff and learning resources" in the local authority system to be directed as a priority towards the education of those "needed to increase the effectiveness and efficiency of industry and commerce".



Members of the British team to the World Student Games, which opens today in Edmonton, Alberta, leave Gatwick Airport. Highlights of the games will be shown on Channel 4 on July 10 and 17. Features, page 9.

Anger as YTS rise is refused

by Patricia Santinelli

The refusal by Mr Norman Tebbitt, Secretary of State for Employment, to sanction a £1.45 rise in the £25 Youth Training Scheme allowance, led to predictable criticism from trade union leaders this week.

Mr Tebbitt vetoed the increase, recommended at a stormy meeting of the Manpower Services Commission last week, on the grounds that the success of the scheme would be endangered by any increase. The MSC had accepted the overall financial limits for the YTS at the outset, he said, and a rise could only be funded within the existing budget by "cutting out some youngsters from the scheme, cutting the quality of training, or asking employers and other sponsors to put in more money of their own."

However, Mr Peter Dawson, general secretary of the National Association of Teachers in Further and Higher Education, said this week: "The refusal of the Secretary of State to increase the allowance, despite the MSC's recommendations, will have a terrible effect on the way young people perceive the scheme. It will also affect the trade unions' perception of it. The suspicion that the Government is intent on driving down youth wages will have been strengthened."

Mr Tebbitt's refusal came in response to a letter from Dr David Young, chairman of the MSC, asking for an urgent decision. Mr Young explained how a majority of the commission's members had voted for a rise of between £1.45 to £1 in the allowance, to take account of inflation since the Youth Task Group reported last year.

Mr Tebbitt's decision is hardly surprising. Already last week he ruled out further Government funds for the scheme – according to the MSC, the rise in allowances would cost an extra £32m in a full year on top of the £1bn allocated.

Mr Young said last week that both CBI and Assocation of County Councils members had voted against the rise because it would have to come out of the £1,850 grant employers receive for Mode A training. This could only lead to withdrawal from the scheme, reduction of places and quality of training.

Mr Young also offered a new reason for opposing the rise. An increase would limit the number of places for 17-year-old unemployed schoolleavers – especially now that there will be more with the inclusion of those who have already been on vocational courses – both because it would increase the number of 16-year-olds and employers would offer fewer places.

Mr Young said that he doubted TUC members would withdraw from the commission if the allowance was not raised. All three TUC members voted for a £1.45 rise, although originally they had sought an increase of between £3 to £5 a week. They were supported in this by Dr M. Green of Strathclyde Regional Council. Mr Wilson Longden, the education representative wanted a £1 rise or four per cent.

Engineering takeover should reach target

by Jon Turney
Science Correspondent

The Engineering Council's plans to take over the registration responsibilities of the Council of Engineering Institutions and frame its own bylaws are on target for completion before the end of the year.

An extraordinary general meeting of the CEI next week will ratify the surrender of the older body's Royal Charter and other arrangements are going ahead on the assumption that this will take place.

The coordinating committee of the Engineers Registration Board has published a handover report to the Engineering Council, highlighting issues which need to be resolved.

These include the academic standards for recognition of chartered engineers, technician engineers and engineering technician, and the status of these qualifications with employers. These problems will pass to the Engineering Council when it takes over the ERB's work in mid-September.

The new council will then have to step up the pace of policy initiatives to mollify critics who allege the council is devoting too much time to organizational details. The council's first annual report, published this week, is mainly taken up with the administrative structure which has been designed to power the "engine of change" called for in the Finniston report three years ago.

The council's report reveals that its budget from the Department of Industry for the first year of operation was nearly £600,000, mainly spent on office rent and equipment as few staff had been recruited before this spring. So far, the council has produced a single policy statement, though further statements are expected later this year, notably on education and training.

A further statement this week gives details of the council's proposals for an engineering assembly. The assembly is intended to meet for two days every year to give elected engineers a chance to comment on council matters.

Regional elections will be organized for registered engineers, to meet concern that the council itself has no provision for elected members. Regional representation is likely to be based on the existing regions recognized by the CEI, which both councils agree should be continued.

Council urged to drop fees plan

College lecturers have warned that plans by Cheshire County Council to charge 18-year-old students fees for further education courses may force many to give up their studies.

The plan, to be discussed by the county council next month, was designed to bring Cheshire into line with other authorities in the North West. But the lecturers' union, the National Association of Teachers in Further and Higher Education, said this week other authorities – unlike Cheshire – operated educational maintenance allowances.

The union is appealling to councillors to drop the proposal, which would mean 18-year-olds facing fees of £294 a year and substantial examination charges after September. Previously, students aged less than 19 at the start of their courses have not been charged.

Ms Judith Summers, secretary of Natfhe's liaison committee in the county, estimated that 1000 students already on courses could be affected. "our assumption is there will be a considerable drop out from existing courses and possibly course closures."

The authority said that the issue was still under discussion and confirmed that a final decision would be made on July 21.

Open winner

An Open University student has again won the top individual prize open to all university, polytechnic, and college students in the young historians of the year competition run by *History Today*. Mrs Sarah Bussy won with an entry on the Labour victory in Winchester in 1945.

Ministers still deliberating over replacement for Posner

The Government has still not decided on who will take over as the next chairman of the Social Science Research Council, even though it has already had a six month extention.

Mr Michael Posner, the current chairman, was asked to stay on beyond the end of his four-year term at the end of last year until a successor was found.

There is now increasing speculation that a new appointment will not be made in time to fill the post before Mr Posner's extended term expires at the end of September. He may well be asked to stay for a second unprecedented extension.

Mr Posner has just agreed to take up an immediate part-time post as a senior research fellow at the Policy Studies Institute in the autumn.

Meanwhile Sir Keith Joseph, the Secretary of State for Education, has been studying a list of half a dozen possible candidates with Department of Education and Science officials.

The favourite is understood to be Sir Douglas Hague, head of the strategy unit at the Oxford Centre for management Studies, an economic adviser to Mrs Thatcher's personal policy unit and visiting professor in managerial economics at the Manchester Business School.

Other names understood to be on the list are Lord Vaizey, former professor of economics at Brunel university; and Mr Nevil Johnson, reader in the comparative study of institutions at Nuffield College, Oxford.

The DES said this week that no immediate announcement was expected. If a new chairman was not ready to take over in October, it was usual for the deputy chairman to fill in. The SSRC has no deputy chairman.

Polys' conversion follows EOC lead

by Felicity Jones

Three polytechnics plan to start "conversion courses" which will enable women with arts A levels to take a science or technology degree course.

The university Grants Committee last year effectively blocked proposals from Bradford, Dundee, Surrey and Essex Universities, which had responded to approaches from the Equal Opportunities Commission to start one year conversion courses.

The UGC maintained that the sciences were oversubscribed and refused to allow the four universities an additional allocation of places. The universities in their turn did not feel able to go ahead with the courses without the UGC's backing.

As a result of the publicity surrounding the UGC's refusal, three polytechnics – South Bank, Sunderland and Huddersfield – plan to start similar courses this October.

The Polytechnic of the South Bank's course is a one year full time Technician Education Council higher certificate in electronics for women with one A level which need not be in a science subject. The polytechnic's deputy academic registrar, Margaret Jacks, said it hoped that 20 students would start on the new course and some would transfer to the second year of degree courses in electronics or information technology.

Money to run the course has come from the Government's information technology funds. Since the students will not qualify for a mandatory local authority grant, £2,000 plus fees will be provided through the EEC social fund for each one.

The Equal Opportunities Commission has been disappointed by the attitude of some universities and their senates to conversion courses. However, some, including Dundee and Bedford College, have shown interest and are hoping to make arrangements for students with arts qualifications to enter science-based courses.

Ms Lynda Carr, the EOC's education principal said: "There is a strong feeling that a good student is a good student who will get there if she is good enough. It is seen very much as positive discrimination. But the commission sees the courses as short term measures which will probably be unnecessary with the next generation of students."

The tide of opinion is changing since many universities are anxious to increase women's participation in science courses because they generally get good candidates. Engineering faculties in particular have expressed a strong interest in these courses as a way of increasing the number of women students.

● In its seventh annual report, the EOC says that discriminatory views still hold in the education and training world. The commission is supporting the case of a women student who received a mandatory award to study from the local authority but when she became pregnant was refused a discretionary grant.

Equal Opportunities Commission Annual Report 1982, £3 from Overseas House, Quay Street, Manchester M3 3HN.

Admission reforms gain Oxford support

by Paul Flather

New proposals to make the admissions system to Oxford "fairer and simpler" passed their first major test this week when a majority of the 28 colleges indicated their broad support.

The support came in a straw poll taken at a special meeting of college representatives on Monday and it now seems that the package of reforms – including the abolition of the seventh term entry examination – are likely to be approved whena final decision is made in November.

The reforms were presented to the colleges' committee on admissions last month by a committee of 14 members headed by Sir Kenneth Dover, president of Corpus Christi College. They are the most wide-reaching reforms at Oxford for 20 years.

The Dover Committee proposes just two modes of entry, by examination in the fourth term of the sixth form, or by conditional offer at any stage of a candidate's career, with all assessments taking place together in November and December.

It is widely thought the proposals will encourage more state school entrants to Oxford, meeting one of the underlying criticisms of the system. At present equal numbers of state and private schools enter Oxford, while at other universities it is three to one in favour of state school entrants.

A number of colleges including Queen's, however, remain opposed to the committee's most radical proposal – to abolish the seventh term examination, on the grounds that a "fair" system of examining all categories of applicants could be designed.

The Dover committee report said that no one could deny the seventh term could be of value to students, but its abolition was the price that has to be paid to make the system fairer. Many state schools could not afford seventh term coaching.

The debate on the reforms, along with a number of amendments proposed at the meeting will continue in colleges throughout the summer. One amendment certain to be carried is for organ scholarships to be exempted from the general abolition of entry awards.

Dr Oliver Taplin, head of the colleges' admissions committee, was this week hopeful the Dover reforms would be accepted. "It has emerged quite clearly that a substantial majority are in favour of most of them," he said.

MPs call for Derry college

by David Jobbins

An autonomous polytechnic-style institution for Londonderry is recommended this week by the Commons Select Committee on Education, Science and the Arts.

The proposal, for a merger between Magee College and the North West College of Technology, runs counter to the Government's plan for Magee to be a part of the "polyversity" formed out of the New University of Ulster at Coleraine and Ulster Polytechnic.

The MPs' recommendation, put forward in their final report from the committee's 1982/83 parliamentary session, has reawakened the bitter controversies of the 1960s when the NUU went to a greenfield site at Coleraine rather than to the city.

Mr John Hume, the MP for Foyle, who was prominent in the "university for Derry" campaign of the 1960s, said the area would be best served by the aim of full university status for the city campus. And Mr Michael Canavan, chairman of the Derry Civic Committee, warned that to change course now would be to jeopardize progress made through the NUU/polytechnic merger.

"Such a change could only go ahead if for any reason the Government's merger was aborted, for example by the continued intransigence of the Coleraine authorities."

In their report, the MPs acknowledge that their proposal will not find favour with either the Government or the proposed merged institution.

Mr Nicholas Scott, Northern Ireland under secretary responsible for education, said when he set up a working party to review advanced further education in the Londonderry area that Magee was an "integral part" of the new institution.

The MPs welcome the initiative but added: "The needs of Londonderry and its hinterland cannot be satisfied through carefully modulated relationships between Magee, the rest of the proposed university, and the North West College of Technology."

They see the new college at Londonderry establishing close links with the Council for National Academic Awards which with the disappearance of the polytechnic will otherwise largely lose its contacts with Northern Ireland.

And they also regard it as a base for future cross-border cooperation in line with a joint governmental study which in 1981 called for the greater use of post school education in the North by students from the South.

The vice chancellor designate of the proposed university, Mr Derek Birley, made clear his opposition to an autonomous institution in the city, but he promised the MPs that he wished to "reinterpret" Magee's approach to continuing education, while taking into account the needs of the community.

Further and Higher Education in Northern Ireland: second report from the Education, Science and Arts Committe, HMSO £5.55.



Edinburgh University senior president Imogen Foulkes with her executive, union president Tony Miles (left), treasurer Laurence O'Donnell and secretary Alan Little.

Meanwhile, back at the ranch

by Olga Wojtas
Scottish Correspondent

The scene was reminiscent of nothing so much as Dallas. There was a familiar tripartition of the screen, but in place of the egregious Ewings, there were the secretary of Edinburgh University, the principal, and Liberal leader David Steel, the university rector.

"The Triple Alliance" is episode three of *Campus*, a six part BBC Scotland series beginning next Thursday on BBC 1 at 10.15pm, examining university life through Edinburgh, "the first university in the world to allow television free reign on its campus", according to series producer David Martin. He sees the programmes as the natural successor of the *Public School* and *Kingswood* series.

A press preview this week showed a brief compilation of the episodes which cover freshers' week, medical education, university government the students' association professional staff and graduation day.

Twenty minutes is not long enough to judge a three hour series, and *Campus* may bear out principal Dr John Burnett's hope that: "It will be a record of how one university tried to live up to its ideals towards the end of the twentieth century."

Some scenes may well fuel popular myths about student life, particularly one of yards of ale being consumed beside a strategically placed bucket. A later scene shows students complaining about their lack of funds; "I've got £2.50 of my grant left to last me till the end of term." The next shot is a sumptuous candlelit dinner party, with a cry from one elegant youth: Has Giles got the pheasant yet?"

The "Triple Alliance" episode on July 28 may prove something of an anticlimax at the university. The BBC precis reads: "The university has decided that the day nursery is a luxury it can no longer afford. At the decisive Court meeting, the rector holds the balance."

But the issue has not yet been resolved, and exactly 10 days beforehand, the campus unions will be lobbying the court to keep the nursery open.

SSRC seeks unit transfers

The Social Science Research Council is to hold exploratory talks on the future of its four specialist research units with the universities where they are based.

Mr Michael Posner, the SSRC chairman, has written to the universities of Aston, Cambridge, Oxford, and Warwick, seeking talks aimed at persuading them to take over the administrative costs for the units.

The SSRC, which has seen its budget cut in real terms by almost 30 per cent since 1979, is looking for ways to cut down on central administration costs, which in 1982/83 accounted for 11.4 per cent of its £20.9m budget.

The units in ethic relations at Aston, population studies at Cambridge, socio-legal studies at Oxford, and industrial relations at Warwick, have each faced cuts on average of 18 per cent in recent years, and been asked to find more money from external sources.

The future of the units, which are reviewed every five years, is not under threat. But it has been plain for some time that the SSRC is moving away from the concept of units towards more flexible designated research units where staff remain university employees.

The units, born in 1970, have been uneasy hybrids caught between the university world and the Civil Service. Conditions of pay, tenure, and pensions rights will be key issues in the talks with the four universities.

If agreements are reached the SSRC is likely to continue to pay and direct the unit's research with universities looking after staffing and administration. If not the SSRC may decide to put the units out to tender to universities willing to pay. The ethnic relations unit was moved from Bristol to Aston in 1980.

Paisley reprieve appeal refused

The new Scottish Office minister for industry and education, Mr Allan Stewart, has refused to reprieve Paisley college's social science degree, due to be axed in 1984.

The Scottish Education Dept says the future of the college's sister course in applied social studies has still to be considered as part of a "fundamental reassessment" of the subjects at Paisley.

Paisley's board of governors had asked the SED to suspend any decision on the degrees' future until a review had taken place, and three emergency meetings of the governors and Paisley's academic board were to place this week. The governors are likely to seek urgent talks with Mr Stewart.

The SED has, however, agreed to increase next session's joint intake to social studies and social science to 100.

Mr Stewart has also revised the intake to college of education youth and community courses from the original recommendation of 120 to 150. But this has infuriated the colleges, who say the intake should be 190.

European research approved

European research ministers approved the latest plans for a massive cooperative programme of research in information technology at a meeting in Brussels this week. All the ministers present backed proposals for pilot projects which should lead to a £75m research programme run by the European Commission for 10 years, starting in 1984.

Detailed decisions on the structure of the programme were deferred until the next European Research Council meeting in October, but officials hope that the full plans, originally floated last year by 12 major European electronics companies, will go ahead. The European Commission's draft budget for next year already includes over £100m for the next phase of the programme, and almost 200 proposals for pilot projects have been received.

The full programme, the European Strategic Programme in Information Technology (ESPRIT), will concentrate on five areas, designed to bolster European industry in competition with American and Japanese firms. These are in advanced microelectronics, computer programming, information processing, office automation and computerized manufacturing. Some of these overlap with priorities in Britain's homegrown programme for advanced information technology launched earlier this year by the Department of Industry, and there may be some collaborative projects between the two schemes.

The first phase, starting later this year, will back 15 pilot projects in the five research areas, together with a sixteenth project to develop an information exchange system for all the participants. These will cost just under £13, with half the money coming from the commission and half from European industry. Industry will also be expected to help pay for the full programme, and the October research council meeting should decide the level of industrial contributions.

The Brussels meeting this week also affirmed the commission's intention of increasing the overall research budget for joint programmes. But detailed decisions on the increase will await the European summit meeting in Athens this December.

AUT bid to stop cuts at Aston

An attempt was being made this week to stop Aston University senate calling on council to consider making compulsory redundancies.

Senate, meeting after being adjourned last week, was due to consider an executive motion calling for the council to act in those departments which exceeded the minimum staffing range. But another motion said the university should reject the policy of involuntary severance.

Meanwhile, the Association of University Teachers headquarters has called on all its members to write to write to Aston council members protesting.

Mr Steve Ruhemann, the AUT president has also written to all senators. "The AUT would not accept such a decision without protest and the resulting furore would hardly rebound to the credit of the university." he said.

The next council meeting is on July 12. Next week the Hight Court will hear a plea from the AUT that the university cannot dismiss staff except for good cause, because of the tenure enshrined in its statutes.

INFORMATION TECHNOLOGY

The British Library

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The British Library has launched a series of conveniently sized (A5) paperback reports on those aspects of librarianship and information science likely to appeal to a wide audience made up both of professionals and public. LIR Reports pay particular attention to new technology designed to improve the ways in which libraries are run and information is retrieved, collated, catalogued and transmitted.

Computer software: supplying it and finding it by W. Tagg and R. Templeton, 1982.
LIR Report 16. ISBN 0 7123 3014 3. £7.00.

Education Abstracts Service for Adults: a computer database by N. V. Tilley, 1982.
LIR Report 6. ISBN 0 7123 3011 9. £9.00.

The ex-libris public library by A. J. Quilon et al. 1982
LIR Report 7. ISBN 0 7123 3002 X. £8.00

Optical video disc technology and applications: recent developments in the USA by R. Barrett 1982
LIR Report 7. ISBN 0 7123 3010 0. £9.00

Rental in the library context edited by Anne Sheldon, 1982.
LIR Report 8. ISBN 0 7123 3009 7. £8.00

Present is the public library: reactions of the general public to Prestel and its potential for conveying local information by Robin Yeates 1982
LIR Report 9. ISBN 0 7123 3003 8. £8.50.

Please send order to: Publications Section
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Wetherby, West Yorkshire LS23 7BQ

Controversy as art college rector resigns

by Paul Flather

The Royal College of Art has been plunged into fresh controversy by the announcement that Dr Lionel March, the rector, is to resign his post two years before his five year term is up.

A terse statement from the college, widely regarded as one of Europe's premier art and design schools, said that Dr March had decided to leave for "personal reasons" just two years after being appointed in the midst of great controversy. He will leave the college in September next year.

Dr March is declining to give any further statements until he has explained his decision to a meeting of the college council next week. But it is understood that he had become tired of the continuous college infighting and the difficulty in imposing new reforms.

Three recent events combined to make his position as head of the 146-year-old college even more difficult. An early retirement plan involving a number of professors was abandoned; plans to launch a multi-million pound appeal have so far borne little fruit; and the senate has failed to ratify the appointment of Mr George Stiney, a personal choice by Dr March, as dean.

Dr March, an architect and design specialist from the Open University, took over as rector in 1981 promising to reform the administrative structure of the college, and promote a greater design consciousness throughout the college.

His appointment came shortly after a major row when the college was accused by an official visitors' committee of being in breach of its charter for not considering enough the needs of British industry in fostering the promotion of design.

Dr Rhodes Boyson, then undersecretary for higher education, took the unprecedented step of sending the report to the college, and warned the college council that its recurrent grant might be reduced if the college did not make appropriate reforms.

The ensuing row over which way the college should proceed and how much attention should be paid to pressure from the Department of Education and Science, which has direct responsibility for the college, led to the resignation of five council members, including the chairman Mr Cob Stenham, a financial director at Unilever.

The board of visitors has been continuing with regular visits to the college this year, and a full report, the first since the critical 1980 report, has just been sent to the Secretary of State for Education, Sir Keith Joseph.

Mr Robert Feilden, the chairman, said he personally regretted Dr March's resignation. "A great deal of progress has been made. It is a question of producing gradual and planned change. But Dr March has been up against various entrenched attitudes which want to maintain the status quo."

Dr March's attempts to impose severe economies have met with resistance, although 11 of the 40 full and 130 part time lecturers have not had their contracts renewed.

There are fears that the DES could now again use its powers as paymaster to force through reforms of which it approves. Mr Paul Convery, a senior student officer, said he was pessimistic. "I do not feel the college has many more chances to put matters right."

'Vicious pruning must end'

by Olga Wojtas
Scottish Correspondent

A Scottish Education College principal has called for a reversal of the "vicious pruning" suffered by the colleges of education over the past seven years.

Mr Peter McNaught, principal of Craigie College of Education, said in a diploma speech that there should be a financing system which was "subordinate to a proper consideration of the tasks, responsibilities, advice and support which people have a right to expect from the colleges".

The number of colleges had been cut from ten to seven, the teaching strength of the remaining colleges reduced by almost half and further recruitment of staff prevented, he said.

This had brought about stagnation which had to be reversed, since commitment to the needs of the teaching profession was a vital condition of the country's overall economic revival.

The colleges needed a constant flow of new ability and experience as fresh subjects were added to the curriculum and credible practitioners of these subjects were required to lead the way, Mr McNaught said.

"There comes a time as with any bank account where if nothing new is added, the capital is slowly used up, the interest diminishes and will one day vanish," he added.

Mr Gordon Kirk, principal of Moray House College of Education, predicted in a graduation address that there would be a major transformation in the relationship between education colleges and the professions they served.

The professions would be much more involved in initial training and professional bodies such as the General Teaching Council for Scotland, the Central Council for Education and Training in Social Work and the Scottish Community Education Council would validate courses "with increasing rigour and stringency," he said.

Courses would be developed through detailed and extensive discussions between the colleges and practising professionals, Mr Kirk added.

"I expect the various professional bodies in the years ahead to be quite as explicit in their requirements for continuing professional education as they currently are with regard to initial training," said Mr Kirk. He added that the colleges would have to accommodate more part-time courses as a result.

More part-time courses for mature students and open access to educational institutions were advocated by Social Democratic Party president Mrs Shirley Williams, while speaking at a graduation ceremony at Dunfermline College of Education.

MSC criticized over training strategy

The Association of County Councils has stressed the need for a general as opposed to vocation-orientated education for adults in its response to the Manpower Services Commission discussion paper on an adult training strategy.

The ACC, representing 45 county councils in England and Wales which are the major providers of adult education and training, takes the MSC to task for suggesting that the purpose of an adult training strategy is primarily to do with national economic issues.

"This is understandable but national issues, however relevant to national concern, do not provide sufficient motivation for individuals to engage in training," the association said in its response. It says that many adults need non-specific courses to enable them to gain the confidence to embark on more specific courses of training later.

Mr Peter Coles, the ACC undersecretary for education said that it was a consensus view among the county councils that they would not want the MSC to take a narrow vocational-orientated approach to adult education since many jobs with apparent specific skills also required a general educational background. Also people did not always know what was the right specific training to embark upon for a particular job of work.

An over-specific approach, according to the ACC response, which did not take individuals, needs and aspirations as its starting point would also not provide for the unemployed.

"Training and retraining directed only at those already in employment or about to start employment could help to condemn many unemployed people to permanent stagnation and add to their frustration."

The underlying criticism made by the ACC is that in presenting its paper the MSC has failed to provide much leadership in adult education. But it concludes that if any adult training strategy is to succeed, then a partnership has to exist between the MSC, local authorities and employers.





Skills acquired over a lifetime of work are passed on to another student in an attempt to save a dying trade. Mr Frank Day (left) instructs a student in the art of the blacksmith while (above) a colleague puts his advice into practice. Mr Day, a retired blacksmith, runs what is claimed to be the country's only course in the subject. The aim is not to encourage more people into the trade but to improve the quality of existing work. He rents premises at the Somerset College of Agriculture, near Bridgwater, for weekend sessions and occasional full weeks.

Hull fee protest loses ground

Student leaders at Hull University accept that support for a boycott of a £19-a-year amenity fee is crumbling in the face of threats from the authorities to withhold degrees from finals students and bar continuing students from next academic year.

A survey on the eve of the deadline imposed by the university for payment of the fee following its backing by the Visitor, disclosed that of 270 finalists approached, 48 per cent had not then paid the fee.

But according to the university, 1,500 students have come forward to pay the fee in just over a week. A university spokeswoman said that 3,500 had now paid – about two thirds of the total number liable, with a slightly higher percentage among finalists.

Video systems vital to fresh thinking, says report

by Jon Turney
Science Correspondent

Government and industry should back an £8m programme to develop interactive video systems as a basis for a new "knowledge industry", according to a report published this week by the Council for Educational Technology.

The report's author, John Duke, former assistant director of Middlesex Polytechnic, argues that the technology of video recording is now well established but the applications of video systems, especially video discs, linked to computers remain to be worked out.

He points to a wide range of experiments in universities, colleges and industry with video teaching systems. If they were integrated with the best elements of existing teaching they could "liberate higher education from its conventional pedagogic straightjacket", Mr Duke believes.

Examples of applications in the report include using videodiscs as an electronic library, containing standard texts with cross-references and supplementary information, and providing simulations of procedures difficult to show in a college laboratory. Groups at the Open University, the British Library and London University are already working on systems.

Mr Duke proposes setting up a funding consortium with members from government, the electronics industry, publishing and television which would back four production centres for making interactive video programmes.

He estimates that these, together with a fifth centre for training users and publicizing the techniques, would cost £5m to set up and just under £6m to run for three years. This would pay for at least 80 programmes, some of which would go on the market.

Mr Duke expects the Open University, the new Open Tech, as well as industrial training organizations to be especially interested in developing new uses for video. He believes they will prove even more useful in further and higher education than in schools because they are well suited to in-depth study and individually-tailored curricula.

Interactive Video: Implications for Education and Training by John Duke, CET Working Paper 22, £10 from 3 Devonshire St, London W1.

Student numbers

Vice chancellors will today discuss the question of student numbers and whether the University Grants Committee is right to stick rigidly to targets and to fine institutions which exceed them. Contrary to press reports the UGC has not abandoned student target numbers and it will also reopen the question at its September annual conference.

The UGC was recently embarrassed by Hull University which it fined for exceeding interim student targets. But the UGC refused to reveal what targets the university should aim for if it wanted to avoid being fined again.

Poly calls on local authorities to fight cut

Governors of one of the polytechnics threatening to pull out of the National Advisory Body have called on their local authorities to join the fight against a £500 per student cut in the unit of resource on which planning decisions are based.

In a letter to the chief executives and town clerks of Haringey, Enfield and Barnet, governors of Middlesex Polytechnic have warned of the dire consequences of the proposal and asked for urgent representations to Sir Keith Joseph, Secretary of State for Education, and to the NAB committee.

Mr Peter Flowerday, acting clerk to the governors, wrote: "Knowing the problems the polytechnic is facing with the existing level of resources, the governors fully recognized that a reduction on the scale proposed will place public sector students, institutions and local authorities in an untenable position in regard to the maintenance and achievement of standards.

"The view was expressed that if the state of the economy is such as to prevent no further funds for higher education, then the consequences should be borne by the higher education system as a whole."

Middlesex calculates the proposal to be equal to a 16 per cent cut in per capita funding, given a current average of £3,000 per polytechnic student.

The polytechnic is deeply aggrieved that while university numbers and spending remain the same, polytechnics are expected to accommodate "excess" students while their funding is based on an assumption of reduced demand.

Dr Raymond Rickett, director of the polytechnic, commented: "The Department of Education has quite simply got its sums wrong about the number of students coming into higher education. They now want us to take the excess students while at the same time cutting the money we receive.

Middlesex's academic board was this week considering a proposed conditional withdrawal from NAB and Council for National Academic Awards committees pending assurances on the preservation of academic standards.

THE TIMES SUPPLEMENTS REPRINT SERVICE

Robbins to Leverhulme

The Leverhulme programme of study into the future of higher education was organised by the Society for Research into Higher Education with a grant from the Leverhulme Trust and further grants were made by the Gulbenkian Foundation and the Department of Education and Science. The programme consisted of eight seminars the first in April 1981 and the last in September 1982.

An edited four-page version of the final report is now available in reprint form (first published in The Times Higher Education Supplement on 27th May, 1983) price 25p.

Inquiries should be addressed to Frances Goddard, The Times Supplements, Priory House, St John's Lane, London EC1M 4BX. Cheques/postal orders should be made payable to Times Newspapers Limited (no cash please).



Benefactor: John M. Templeton

£3m gift for Oxford centre

by Paul Flather

Management studies are set to increase their influence in the sancta of more traditional scholarship in Oxford following the creation of the first tutorial fellowship involving management, and a £3,260,000 gift to the Oxford Centre for Management Studies.

The gift is from Mr John M. Templeton, an investment trust millionaire living in the Bahamas, and a Rhodes scholar at Balliol College in the 1930s. It is said to be one of the largest gifts to a British educational institution.

Mr Templeton, aged 70, who also founded the Templeton prize for religious progress recently awarded to Alexander Solzhenitsyn the Soviet author, has given the money to help revitalize British economic management and to provide "continuing education" to those who exercise social leadership.

He will make an unrestricted gift of £1.3m in the next year, with a further £2m to follow conditional on the progress of the centre, which will be renamed Templeton College.

The Oxford centre, founded in 1965, is responsible for virtually all management teaching at Oxford University. It offers PhDs, M Phils and M Litts, in management and two undergraduate degrees in engineering, economics and management, and metallurgy, economics and management. A new MSc starts in October.

About 25 undergraduates a year take degrees, most going on to work with local authorities or in the health service. There are 31 fellows and associate fellows, and about a fifth of the centre's £971,000 budget came from the university.

The main work of the centre is providing courses for middle senior managers from government departments and industry, which Mr Uwe Kitzinger, the director, describes as a sign of Oxford's growing commitment to continuing education.

"Oxford was very slow to start in management studies", he said. "The Franks committee did not pick Oxford as a site for a business school. But the traditionally static model of knowledge at Oxford is changing and we are keen to expand."

The announcement of the gift coincides with the creation of the first Oxford tutorial fellowship incorporating management based at Balliol, and backed by a donation of more than £100,000 from the Foundation for Management Education and Mr Clive Richards of N.M. Rothschilds and Sons. A research fellow was appointed in the 1960s.

Mr Bill Weinstein, newly created fellow in politics, public policy and management, said he thought management studies were set to expand inside Oxford as the practical importance of the subject became more widely understood.

"I think there will be a growth in the subject but not at the expense of other subjects. I will be bringing contacts from the real world of business at the centre back to Balliol when I return to teach politics."

The centre meanwhile is considering ways of strengthening its status and links inside the university. Mr Kitzinger feels other disciplines could gain from the model of the centre to generate finance and teach undergraduate and mature students.

Chemistry transfer proposal scotched

Ngaio Crequer

A University of London working party on chemistry has proposed that students at Chelsea College should transfer at the end of their first year to the Royal Holloway College at Egham in Surrey.

But Chelsea College senate has effectively scotched the recommendation by declaring that all students, subject to satisfactory progress, will be able to complete their studies at Chelsea or the new "Trinity" of King's, Queen Elizabeth College and Chelsea.

The joint planning committee working party on chemistry has proposed that the subject be reorganized on five sites: University College/Birkbeck; King's/QEC/Chelsea; Queen Mary College/Westfield; Royal Holloway/Bedford College; and Imperial College, which remains unchanged.

It says that as chemistry at Royal Holloway/Bedford needs reinforcement, three members of the Chelsea staff, plus resources, should be transferred in 1984. "Students entering the Chelsea department to read honours chemistry would transfer with these staff at the end of their first academic year and would complete their studies at Egham. The undergraduate intakes to Chelsea of 1982 and previous years would complete their courses as registered Chelsea students."

Because of the impending "Trinity" merger, it recommends that the remaining nine Chelsea staff remain at the ultimate King's/Queen's/Chelsea department, although for personal reasons two might go to QMC/Westfield.

The merger of chemistry courses at King's/QEC has already begun and the 1982 QEC entry will transfer to the Strand for their third year in 1984.

But at Chelsea, senate accepted nem con the motion from the student union president Mr Kam Poroohur blocking the movement of chemistry students mid-course. It will also affect geology students where a similar recommendation has been to move students.

Senate accepted the arguments that moving mid-course would be detrimental to the students and that those who had applied to Chelsea had wanted to be in central London, not Egham.

Of the other recommendations the working party notes that UC and Birkbeck could pool research facilities although teaching would still be separate. The cost of association, including furnishing and equipment would be £300,000

There should be complete merger of chemistry at EMC/Westfield by 1984, when the remaining third year students at Westfield will move over. At RHC/Bedford chemistry has been wholly integrated since 1982 and all activities are proceeding as one department.

UGC's chain reaction

by Olga Wojtas
Scottish Correspondent

The Scottish universities' research and reactor centre is to continue, despite the withdrawal of more than half the universities from the consortium which runs it.

The University Grants Committee has agreed to meet the shortfall when Aberdeen, Dundee, Heriot-Watt and St Andrews leave in 1985. They have decided they cannot continue to fund the centre because of the university cuts.

The UGC will pay the equivalent of £130,000 at 1982 prices out of the annual running cost of £450,000, adding the money to the recurrent grants of Glasgow, Strathclyde and Edinburgh universities which will continue to run the centre.

The other universities will still have access to the centre on a contract basis.

Sir Alwyn Williams, principal of Glasgow University which contributes most to the centre, said he was delighted by the UGC's decision which ensured that nuclear technology would survive as an academic subject in Scotland.

The centre, established 20 years ago, is prominent in the development and application of radioactive isotopes in engineering biology, medicine and geology.

Open Tech budget doubled

Nine new training initiatives costing £1.5 million have been announced by the Open Tech programme, the Government's technician and supervisor training initiative for adults in work.

Seven projects are already in operation and others are in the pipeline in the scheme which makes use of open and distance learning to provide more flexible learning packages. The Manpower Services Commission has recommended that the Open Tech budget for next year should be doubled to £8m out of which these latest projects to win approval will be funded.

The new projects can be divided into operational projects aimed at specific industries and support projects to do with training and resource information in the operation of open learning.

The nine projects are: the establishment of a resources information service for open learning materials by the National Extension College (£450,000); training for Open Tech staff in open learning systems by the Council for Educational Technology (£270,000); training in quality assurance and computing for technical supervisors by the South West Regional Management Centre, Bristol (£200,000); open learning for site managers in the construction industry by the Construction Industry Training Board (£219,000); development of self-instruction manuals for the fibreboard industry by the British Fibreboard Packaging Association (£150,000); open access learning in lift technology by the National Association of Lift-Makers with the Nene College of Technology, Northampton (£102,000); open learning for technical training in the printing and graphic communications industry at Watford College (£80,000); open learning for technicians in electronics through the possible use of computer-aided distance learning by Plymouth College of Further Education (£68,000); and an open learning system in farm business management at Writtle Agricultural College, Chelmsford (£26,000).

Dr George Tolley, the Open Tech director, hopes that eventually 20,000 people a year will benefit from the projects under the programme.

An information video to explain the Open Tech initiative to educationalists, employers and trade unions has been released. The video film is being made freely available through the Manpower Services Commission.



Shadow education spokesman Mr Neil Kinnock (right) manages a smile, despite having heard it all before . . . Mr Kinnock was to give the John P Mackintosh memorial lecture in Prestonpans, East Lothian, but because of his throat complaint, it was read for him by fellow Labour MP Mr Robin Cook, manager of Mr Kinnock's campaign for the Labour leadership.

The memorial lecture was set up in 1980 with funds from Edinburgh University and East Lothian, where John Mackintosh, a former professor of politics at the university, held his seat until his death in 1978. This year's lecture was organized by Dr Henry Drucker (centre) of the university's politics department.

Poly students fight house demolition

Councillors from two east London boroughs will today reconsider proposals to demolish houses which North-East London Polytechnic students feel could be used as temporary student accommodation.

The houses are near the polytechnic's Stratford Green site and will make way for grassy areas and car parks pending Department of Education and Science approval for new building plans.

Mr Vaughan West, the NELP student union's research and welfare officer, said: "This will not only deprive students of housing but will also involve Newham council in unnecessary costs.

"The union, while not against developing the polytechnic, is appalled that Newham is now in the business of demolishing houses which could be used as student residential units, before they have approval and funding for the college building programme."

The students have told the joint education committee representing the NELP's boroughs of Newham and Barking, that they believe Greater London Council funding is available to refurbish the propertics for student accommodation and that a local housing cooperative is interested in managing them.

The final decision rests with Newham, whose policy and resources committee was also meeting this week. But the decision by governors last week to refer the row to the joint education committee once more has given the students confidence that they are getting their case across.

The committee is also to consider the possibility of a housing association managing the polytechnic's Temple Mills residential site where the students say rents for one bedroom have reached £24 a week – half the full student award which many students do not get.

Students argue this is £10 a week higher than for comparable accommodation run by housing associations for students in the area.

According to the union, there are more than 70 vacancies at Temple Mills, because of the high cost and cheaper alternatives.

Business courses announced

The Open Business School launched by the Open University has announced the first two of its courses for managers which will start in October.

The business school, which was launched officially last week, is the outcome of OU research into managers' needs which was backed by the Manpower Services Commission and the British Overseas Trade Board.

The school plans to run more than twenty short courses eventually starting with two courses in effective management and personnel selection and interviewing. Participants in the effective management course can choose between a six-month course starting in October or a more concentrated three month course starting later.

No formal qualifications will be necessary but most students will probably come from a management background. The students are likely to include technologists who are new to management, people who have become redundant and new managers waiting to acquire management skills quickly.

The syllabuses reflect the everyday problems which the students will be presented with in their work. In the effective manager course which will require five hours of work a week the syllabus will cover setting objectives, decision-making, budgetary control and communication.

Both the autumn courses will run two-day residential schools and there will be some tutorial work.

Scotland 'could again lead the rest'

Scotland could reemerge as an educational leader as a result of the Government's action plan for 16-18-year-olds, according to Mr John Sellars, Lothian Region's deputy director of education.

Mr Sellars was speaking at a conference organized by the Scottish Further Education Association in the first public debate on the plan which was launched in the Scottish Grand Committee at the beginning of the year.

It proposed a series of individual subject courses taught through schools and further education colleges.

But Mr Sellars warned that regional authorities must foster the concept of a true partnership between schools and colleges. The General Teaching Council for Scotland, the professional teaching body, must be more flexible in its qualification requirements for post-school teaching and the Scottish Joint-Negotiating Committee must consider "harmonizing" secondary and further education conditions of service, he said.

Mr Sellars said it was also necessary to halt academic drift in further education since current conditions of service encouraged lecturers to become involved in advanced courses at the expense of non-advanced provision.

It had to be ensured that the higher education system as a whole was willing to accept the 16-18 initiative, he added. The Scottish Universities Council on Entrance had been unwilling to accept alternative entry qualifications to traditional higher grade and sixth year courses and the acceptance of alternative vocational courses had been left to individual universities, colleges and faculties, Mr Sellar said.

The action plan proposals indicated that examination bodies would move towards being validating bodies, using internal assessment, he added.

Courses

MONTESSORI WORKSHOP

Professional introduction and opportunity to study the Montessori Method of Child Education is open to Teachers and Student Teachers at a Montessori Workshop being held by the London Montessori Centre from July 18-29.

Syllabus includes:– Montessori Principles of Education, Psychology of Learning, Environmental Studies, Theoretical and Practical Training in the use of Montessori Didactic Apparatus for Sense Training, Mathematics, and Reading.

For registration application, apply to Claire Mackay, Workshop Registrar,

London Montessori Centre

18 Balderton Street, London W1Y 1TG, England Telephone 01-493 0165

Overseas news

Salaries outpace inflation

from E. Patrick McQuaid
WASHINGTON

Average salaries for American college teaching staff outpaced the rate of inflation for the first time in a decade, according to the American Association of University Professor's annual survey.

The AAUP is one of the nation's largest collective bargaining agencies. It says that salaries nationally rose 6.4 per cent during the 1982/83 academic year, translating into a 2 per cent real increase when coupled with the inflation rate. During the previous decade salaries fell by over 20 per cent, with inflation worked into the formula.

An average university professor is paid $31,011 (£20,670), while professors at institutions awarding a bachelor's as the highest degree are averaging $22,890 (£15,260), according to the salary survey.

The average salary at a private institution was $28,680 (£19,120) and $27,860 (£18,570) at public schools. The AAUP noted a "widening discrepancy" between the percentage increases at private and public institutions. In the private sector, earnings increased by 8.3 per cent while teachers in the public sector gained only 5.9 per cent. Church-affiliated institutions recorded salary increses of 7 per cent.

The AAUP officers said the increases were a much-welcomed development but could be a one-time occurrence, "nothing more than a blip on the proverbial radar screen".

The report is based on a survey of 2,800 institutions and the federal government's National Centre for Education statistics.

Salaries actually dropped from the previous year but spending power increased because of a drop in the inflation rate and relative stability in the consumer price index.

Most salary increases were awarded to junior teaching staff, indicating a trend among institutions across the board to retain younger staff, the agency report speculated.

College of technology closed down

from Hasan Akhtar
ISLAMABAD

Amid growing student unrest and chaotic educational administration in Pakistan, the government is believed to have decided to close down the Rawalpindi Government College of Technology.

The scene of recurring students' troubles, it is situated on Rawalpindi's highway which connects the federal capital with the north-west frontier province.

The college of technology has about 2,000 students and was set up about 15 years ago, first as a polytechnic school. Since then it has developed a strong political character, mainly because the students come generally from lower middle-income groups suffering from social and economic problems.

The first incident to bring the institution into the political limelight was the death of a student demonstrator during police firing in 1968. This led to a violent countrywide agitation spearheaded by the late Mr Z. A. Bhutto, the chairman of the Pakistan Peoples Party, which ended the following year with the downfall of the late president, Ayub Khan, after 11 years in power.

Since then students have often barricaded the highway in order to press their demands, disrupting traffic to the north-west party of the country, which has been a sensitive area since the Soviet military intervention in Afghanistan in 1979. The latest unrest took place in January this year when the police clashed with the demonstrators and arrested 33 students. They were later sentenced by a military court to up to three years in prison and 10 lashes. Some 27 of them were freed only the other day after completing only part of their sentences.

Australia clamps down on foreigners

from Geoff Maslen
MELBOURNE

The number of foreign students entering Australia next year will be frozen as the first step in a reorganization of its overseas student aid programme.

The federal minister for education and youth affairs, Senator Susan Ryan, said that while present numbers would be maintained this year, a massive inflow of overseas students next year would not be permitted.

Senator Ryan said that because of the planning needs of higher education, there was pressure to make short-term decisions. But by the end of the year the government planned to announce a complete revamping of the overseas student aid programme.

"Up until now we have been providing free and easy access to tertiary and secondary education for overseas students. When things were good that was all right," she said. "Now that we have a shortage of places in higher education and we want greater participation by young Australians in tertiary institutions, we have to reconsider our overseas student aid programmes."

Senator Ryan said it would be necessary to reconsider the implications of allowing overseas students to complete their secondary education in Australia and then go on automatically if they were eligible to tertiary institutions.

"Simply because of the pressure of places in tertiary education by our own students we have to restrict numbers for oversens students," she said.

Australia's largest university, the University of New South Wales, is scheduled to make its own decision about how many overseas students it will let into its courses next year. A confidential report completed for the university council earlier this year showed that the unrestricted entry of foreign students had meant that an increasing number of good, qualified Australian students were being displaced.

An inter-departmental committee report on the numbers of overseas students studying in Australian high schools, universities and colleges of advanced education together with policy alternatives has been submitted to the foreign minister, Mr Hayden, the education, Senator Ryan, and the immigration minister, Mr West. They have yet to complete discussions on the inter-departmental report.

Senator Ryan said several alternative methods were being studied to ensure that the entry of overseas students to Australia was more equitable. She said a means test might be introduced which would see the more wealthy students paying the full cost of their education.

A scholarship system was also an alternative to help the children of the poor to come to Australia. But Senator Ryan admitted that there would be problems in introducing any new system of aid to overseas students.

The Australian Union of Students condemned Senator Ryan's statement claiming that any restrictions on the entry of oversens students would be contrary to Labor Party policy to expand tertiary enrolments.

The union is concerned about the lack of consultation on the issue and has objected to the presumption in the minister's announcement that all foreign students come from wealthy families. Most overseas students found difficult to pay their annual visa charge, a union official said.

Judge overturns unpopular draft registration penalty

from Janet Hook
WASHINGTON

A federal judge in St Paul, Minnesota has overturned a new law which prevented young men who failed to register with the military selective service system from receiving student grants and loans from the federal government.

The issue has caused widespread controversy among colleges and students, and is now expected to be taken to the United States supreme court.

Judge Donald D. Alsop of the US district court for Minnesota has issued a permanent injunction barring the department of education from enforcing the law linking eligibility for federal financial aid to students' draft registration status.

The justice department plans to take an appeal on the ruling to the supreme court. Government lawyers may also ask the court to block Judge Alsop's injunction until it delivers the final verdict on the constitutionality of the law.

Because the supreme court is scheduled to begin its summer recess in early July, the legal battle is not likely to be resolved until well after the court reconvenes in October.

The controversy involves a law that would require young men to certify that they had registered with the Selective Service System when they applied for federal grants and loans to help pay their college expenses.

The law was approved overwhelmingly by congress last summer in an effort to encourage young men to comply with the federal requirement that they register for the draft at 18.

The link between draft registration and student aid had been scheduled to take effect today. But six students challenged the law in the Minnesota court and Judge Alsop issued an order in March which temporarily barred enforcement of the requirement until he settled the legal questions.

Judge Alsop has now made that order permanent, saying that the law unconstitutionally forces students to provide potentially incriminating evidence against themselves, by requiring them to provide the government with information about their draft-registration status when they apply for federal aid.

The judge also concluded that the law was unconstitutional because it imposed punishment on students for failing to register for the draft without giving them the benefit of a court trial.

Judge Alsop ordered the department of education to inform college financial aid officials of his ruling by June 30. Campus officials would be responsible for posting notices letting students know that they need not provide information about their registration status to receive federal aid. Judge Alsop also ordered the department and colleges to eliminate references to the draft registration requirement from all student-aid application forms.

Because the processing of student-aid applications takes several months, the education department and many colleges began laying plans for enforcing the registration requirement early this year. They printed student-aid forms that included questions about students' draft-registration status and which must be deleted.

Members of Congress who opposed the law linking draft registration and student-aid eligibility were elated by Judge Alsop's ruling.



House gets new leash of life

Students may find themselves in the dog-house at Carl Albert College, Porteau, south-east Oklahoma.

Accommodation is in short supply in this small town where college administrators are going to convert a dormitory for eight women out of the kennel which was the home of the favourite dog of US Senator Robert S. Kerr, a rich oilman.

"It was a very large dog," explained Joe White, the college dean. "We have decided to name it Kennel Hall."

The remodelled doghouse will have eight beds, two bathrooms and a front porch. The renovation will cost $10,000 (£6,600).

The college has yet to say whether the residents will be allowed to keep dogs.

Temperatures rise over medical quota

from John Walshe
DUBLIN

The Irish education minister, Ms Gemma Hussey, has sent a frission of fear through the country's five medical schools after entering the debate about the alleged over-production of doctors.

The minister has promised to do her utmost to ensure that no more than 305 Irish students will be admitted in the forthcoming session. The figure was agreed some years ago but has not yet been reached.

Mrs Hussey was speaking at a meeting of the Irish Medical Association's women's group, which has been urging a restricted intake of 200 Irish medical students.

However, she went on to refer to the latest pressures to reduce numbers further below 305. She announced that the health ministry was undertaking its own survey of medical needs while the Higher Education Authority was also looking into aspects of medical staffing.

Mrs Hussey agreed that if the entry were further reduced this would bring an old issue into sharper focus. Why does a small country like Ireland need five medical schools?

Four are attached to university colleges while the fifth is run by the Royal College of Surgeons in Ireland, which gets very little state aid.

The minister acknowledged that the first consequences of a cut in student numbers would be an increase in unit costs. Income from fees would be reduced while job levels could not be cut because of the contractual rights of staff members and the number of specialisms.

An alternative approach would be to increase the fees for the medical faculty to cover the loss of revenue, she said. Consideration might also be given to the question of offering spare places at the full economic fee—including the large number of overseas students who apply for places in Irish medical schools.

Mrs Hussey's contribution to the debate was welcomed by the Irish Medical Association, which says the profession is in danger of becoming overcrowded. Although there are few totally unemployed Irish doctors, the association fears the situation will change because of cutbacks in the health services at home and fewer openings in countries like Canada, the United States and Britain.

Fighting for peace by limited degrees

Legislation to create a US Academy of Peace, which would offer graduate and postgraduate training in conflict resolution, has been amended to deny the proposed institution the right to grant academic degrees.

The measure, inserted by a Senate committee, is an attempt to gain support for the academy from the American Council on Education which fears that an institution would compete with existing colleges and universities, diplomacy and military schools.

While a final vote on the academy has been delayed, the Senate committee defeated another amendment that would have created programmes for peace research and education but without establishing a separate academy. The White House favours that scheme, which would put the programmes under the charge of the Arms Control and Disarmament Agency.

The legislation would provide $31m to start the academic – $15m to purchase a site, $6m for maintenance during the fiscal year 1984 and $10m for the fiscal year 1985.

Also defeated was an amendment to forbid the academy from accepting private donations. If approved, the academy would be a non-profit-making institution receiving federal allowances and private contributions. With 52 sponsors in the House and Senate, the bill would headquarter the academy in Washington and develop "satellites" at campuses throughout the country.

Education commission partly dismantled

from James Hutchinson
BONN

An important revision of the educational planning system has just been agreed in West Germany. The bureaucratic structure of the commission which coordinates the educational policies of the federal government and the Länder will be partly dismantled, and the commission's scope reduced.

The Länder have a large degree of autonomy in educational policy and, because they jealously guard their independence, efforts to implement national policies have frequently been unsuccessful. The commission, established in 1970, has consequently often operated in vain.

However suggestions that it should be disbanded altogether have been turned down. Instead its work will be streamlined to concentrate on what are seen as the most important and pressing problems. These include the improvement of facilities and courses for particularly gifted university students, the promotion of vocational training and better arrangements for the education of foreign children.

The federal minister of education, Frau Dorothee Wilms, a Christian Democrat, said: "We must have the courage not to pour the sauce of uniformity over every part of the educational system."

The president of the federal employment office, Herr Josef Stingl, has warned that although graduates have so far been less affected by unemployment than others, it was becoming increasingly clear that a degree alone was insufficient guarantee of a career. Industry, he added, was on the look out for people who in addition to an academic qualification could offer some vocational experience.

He suggested that people should be encouraged to take external degrees while doing a job. This, he claimed, was the best way of building up an élite to cope with industrial change.

At a recent conference on new forms of higher education some delegates complained that many young people would not be able to afford the cost of external studies. But most speakers argued that no social injustice was involved and that students would be prepared to make a sacrifice for the sake of good career prospects.

University turns over a new leaf

The Canadian pulp and paper industry will spend $1m a year on a $6m pulp and paper setter, which will be built at the University of British Columbia within the next two years.

The centre is to house a specialized library and provide research space for students in UBC's new graduate programme in pulp and paper engineering. The industry has also promised to donate another $¼m a year for graduate fellowships.

The Pulp and Paper Research Institute of Canada has been cooperating with British Columbia University since 1978.

Overseas News

Cash crisis threatens network

from E. Patrick McQuaid
WASHINGTON

The network representing 281 educational radio stations throughout the United States will have to struggle to stay afloat, according to its auditors.

Educational broadcasting in America does not receive commercial sponsorship and relies on listener contributions, corporate gifts, and federal grants for its maintennance. About half of the stations are affiliated with colleges or universities and thus benefit from state and local subsidies.

Following the release of an audit showing that National Public Radio (NPR) had incurred a net loss of $4.5m – with liabilities exceeding assets by another $6.5m – for the first seven months of this fiscal year, the directorate sacked its chairman and accepted the resignation of its financial manager.

Mr Myron Jones had chaired the NPR board since last October and refused to quit voluntarily. At a recent board meeting he received only one vote of confidence from 13 attending members. After losing the chairmanship he resigned from the board.

Criticism weighed heavily against NPR's chief fiscal officer, Mr Arthur Roberts, after it was learned that the network had neglected to pay $651,172 in state and federal taxes. His resignation and the departure of Mr Jones are the latest episodes in a vicious management purge.

According to the audit, the money NPR had failed to pay in taxes was being used to float day-to-day operations. At a Washington press conference, prior to his removal, Mr Jones explained that the tax payments were being deferred "as a holding action until other things began to work." In retrospect, however, he said "it was not a good decision."

The financial crunch has seen 131 staff dismissals since March, when network officials first admitted to the crisis. NPR management then predicted a $2.8m deficit in its $26.6m budget for this year. By April the predicted deficit had risen to $5.8m and some staff speculate that by the close of the fiscal year (September 30) the figure could hit $12m.

In the wake of these revelations the corporation's president, Mr Frank Mankiewicz, tendered his resignation in April. He was chief executive officer of NPR since 1977 and was replaced by Mr Ronald Bornstein, who now serves as acting president.

Poor management practices coupled with overly optimistic hopes of severing all government ties by 1987 are cited by the auditors as the foundation for NPR's financial woes. Some $800,000 was spent out of the budget's travel and entertainment account during the seven-month audit period and credit card use was not properly checked, according to the report. The corporation failed to make "timely and accurate reports" of its financial dealings and failed to itemize expenses from those accounts.

In addition to Mr Mankiewicz, the executive vice-president Mr Thomas Warnock, and Ms Barbara Cohen, director of the news division, also resigned.

The network faces a congressional investigation regarding its fiscal management. National Public Radio was founded in 1970 as a non-profit-making organization to provide programming to its member stations nationwide.



Pope John Paul II gestures to the crowd during the visit to his alma mater, the Jagiellonian University.

Honorary degrees for Pope

Poland's university tradition must continue to "protect Poland from solely material forces", the Pope urged last week. He was addressing the Senate and academic staff of the Jagiellonian University of Cracow, which had just conferred on him an honorary doctorate.

During his Polish pilgrimage, John Paul II received two honorary degrees, both of which, he explained, he was in no position to refuse, one being from the Catholic University of Lublin, his former "bosses" (he had been professor of ethics there for over 25 years) and the other his own alma mater, the Jagiellonian University, from which he had received his research doctorate in moral theology in 1953 just before the theological faculty was "excluded" from the university structure.

Prevented, in spite of strongly worded requests, from visiting Lublin, the Pope had insisted on a meeting with a 50-person delegation from the university, which took place in Cardinal Glemp's residence in Warsaw. The Cracow degree, however, was conferred in the Collegium Majus hall of the Jagiellonian University, in the presence of the minister of science, higher education and technology, Dr Benon Miskiewicz, and representatives of the Cracow civic authorities.

In view of the recent political "verification" of the Polish universities (a second wave of this purge is rumoured to be on the way) and the rise of the underground "self-education" movement, many of the Pope's reminiscences had a highly topical ring. His own theological studies, he recalled, had begun "clandestinely", in the underground faculty of theology organized in Cracow under the Nazi occupation. He quoted his speech to UNESCO of June 1980, which had stressed that the Polish nation had "preserved its own identity amidst partitions and occupations . . . not on the basis of any means of physical power, but simply on the basis of its own culture."

As a sop to the student participation and self-government promised by the Lodz accords of 1981, a few student representatives were permitted to attend the honorary degree ceremony. Contact between the Pope and students has been kept to a minimum during this visit. The Pope's address to young people at Czestochowa was not carried by the official media, and was censored out of the Catholic weekly *Tygodnik Powszechny*.

The Pope, for his part, made it clear that he was disappointed at having no proper meeting with the students, and pointedly asked the 200 representatives of the various Cracow faculties whom he was allowed to address (from a balcony), to pass on his greetings to all those who had not been permitted to attend.

Warning to Charter '77 members

Dozens of members of the Czechoslovakian Charter '77 human rights movement, including many academics now denied posts, were warned by the authorities to keep away from the world peace assembly which took place in Prague last week.

Sympathizers in London fear that once the congress is over many Charter '77 members will be arrested away from the scrutiny of western journalists and delegates.

A spokesman for Charter formally applied last month to take part in the assembly for peace and life against nuclear war, pointing out that Charter had been formed within the terms of the constitution.

The request led to a series of meetings and interrogations between Charter members and the security service, resulting in warnings. The group then prepared a statement of its views which was handed out to assembly delegates last week.

Among the signatories are Dr Jaroslav Sabata, who was head of the department of psychology at the Prukyne University in Brnó in the 1960s, Dr Jiri Hajek, a former professor of international relations, and Dr Ladislav Hejdanek, a philosophy graduate, who has run official seminars in Prague.

The statement calls on the Czech government to publish thoroughly and objectively "in an authentic and uncensored fashion" the results of the assembly discussions.

It says there is no certainty of peace abroad where there is no domestic peace. "By suppressing public opinion and civil freedom . . . a government aligns itself ever more clearly to the specific horizons of its own interests and pays correspondingly less attention to general human interests, which inevitably endangers all concerned."

The Charter members also distributed a collection of essays on peace and human rights.

Second university closed as student unrest continues

from Craig Charney
JOHANNESBURG

A second university has been closed during the present wave of unrest on South Africa's black university campuses.

The University of the North, a segregated black university 250 miles northeast of Johannesburg, was closed for a 10-day cooling-off period after clashes between students and police.

The clashes followed a commemorative meeting, marking the June 16 anniversary of the 1976 Soweto uprising, on the campus of the isolated "Bush College". Police said they intervened after students began to riot, but students claimed police had beaten students and broken into their rooms.

According to Mr George Phatudi, president of the students' representatives council, more than 200 students were hurt in a police baton charge, and 10 others were put in hospital. The student body then refused to take mid-year exams in support of their injured colleagues, leading to the temporary closure of the institution.

The way was cleared for an end to the closure of the other crisis-stricken black university, the Medical University of Southern Africa, on June 20. The summary expulsion of two student leaders, which had sparked off the crisis, was ended after a disciplinary hearing in which university authorities failed to produce witnesses to support charges against them.

Meanwhile, there was an important development in the conflict over the outspoken student press at the white universities, as the government's publications control board imposed prior censorship on the national student paper, *SASPU National*.

Produced by the South African Students Press Union, the paper (circulation 20,000) has gained a wide audience on and off campus for its reporting on education, social, and political issues.

It successfully appealed against a total ban imposed last year, but this year the authorities have retaliated by using an obscure provision of the censorship legislation for the first time.

If the new ban is sustained on appeal, it could mean the end of not just *SASPU National* but for a wide range of student, academic, and community organization publications dealing with controversial issues.

At the Afrikaans-medium university in Pretoria, an unofficial publications control board has been set up to vet student publications there, following a row over a liberal columnist in the student paper who riled conservative students.

Exam fever as French feelings run high

from Guy Neave
PARIS

As exhaustion and the summer vacation settle over French higher education the major issues of reform are temporarily in abeyance. With the end of year examinations have come the usual crop of scandals and last minute threats.

In the CAPES examination (Certificat d'Aptitude Pedegogique a l'Enseignement Secondaire) 30 candidates have appealed to the Conseil d'Etat – France's highest administrative court. The CAPES is a competitive examination sat by graduates for a teaching post in secondary education. This year some 5,000 candidates will battle for around 1,234 places.

The candidates want the French examination to be annulled on the grounds that typographical errors have slipped into the examination papers.

Among other incidents have been the theft of exam papers and administrative errors in calling candidates for examinations, while the *baccalaureat* – the school leaving certificate – has been beset by similar contretemps. In the academic regions of Blois and Orléans the philosophy paper was withdrawn following the leakage of questions prior to the examination.

Lecturers in certain universities in the capital have threatened to withhold students end of term assessments. Those principally concerned are in the fields of law, political science and economics.

The purpose behind this blackmail is to put pressure on the government to do away with the competitive examination – the aggregation – that can lead to accelerated promotion to a full professorship.

The aggregation in these areas is sat by those already holding the *doctorat d'Etat*. Protestors claim the aggregation is unfair and does not take into account such criteria as publications record and teaching ability.

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Michael Houser looks at the changing status of Japan's foreign teachers

Buying the cow to get some milk



Japan: taking a new direction in intellectual internationalization

Last August, the Japanese Diet passed the Special Legislative Measure for the appointment of foreign nationals as faculty members at national (state) and public (municipal) universities. The law took effect in September and for the first time in the 110-year history of state financed higher education in Japan, foreign teachers may now serve on an equal legal footing with Japanese university staff.

Passage of this special measure marks another step in what the Japanese see as the third major development phase in higher education there: intellectual internationalization. During the first or modernization phase, begun in the Meiji era (1868–1912), most posts in the former imperial (now national) universities were held by foreigners; during the second phase, Japanization, and particularly after the Second World War, the number of foreign university teachers was greatly reduced, limited largely to foreign language teaching.

All foreign staff were individually contracted, usually on very generous salaries, as outside appendages and given the titles *gaikokujin kyoshi* (foreign teacher) or *kyakuin kyoju* (visiting professor), which still have no administrative status and therefore involve no participation in the decision-making process. *Mombusho*, Japan's conservative Ministry of Education, Science and Culture, previously regarded state and municipal university teachers as public servants which, perforce, required that they were also Japanese nationals – an interpretation increasingly contested by the Japanese university community.

In principle, the special measure removes this barrier; if they wish to become fully fledged faculty members, foreign staff may now vote on an equal footing with Japanese colleagues in the university *kyojukai* (faculty conference), the most important policy making organ. Lecturers are appointed directly by any of the 93 national and 34 municipal universities; professorial appointments are subject to ministerial approval. Out of 53,000 national and municipal university teachers and researchers, only 726 – 85 of them British, including one out of every six full time staff – are non-Japanese.

Under the new measures, recruitment will continue to be done by individual universities, with no special posts reserved for foreigners, nor any special advertising of posts overseas – as ever, the Japanese will continue to rely on a highly developed bush telegraph to locate suitable candidates.

The new measures could hardly be said to have provoked a stampede of foreigners beating a path to the presidential portal demanding to be upgraded to faculty member status; to date, only three foreigners have assumed this status, including Dr Peter Kornicki, an Oxford trained specialist in social change in nineteenth century Japan, who has joined Kyoto University's Institute of Humanistic Studies as an assistant professor. Yet ironically, there has been no shortage of grumbling among foreigners over the years about being closed out of university policy making; why then have they failed to grasp this opportunity when it has been handed to them on a plate?

Andrew Grenville is a young *gaikokujin kyoshi* who has been teaching English for three years at one of the newer national universities, Asahikawa Medical College in central Hokkaido. Like many younger foreign university staff, he has rejected *Mombusho*'s offer to alter his status. For one, it would mean a substantial drop in his basic salary ("I think I'm paid about 30 per cent more than my professor"), as well as the loss of well-paid home leave (return air fare plus three months expenses on top of full salary) in exchange for the right to attend faculty meetings (which another foreigner characterized as ". . . a royal pain in the neck") and the apparently dubious gain in status as a faculty member. "Inside the university, I don't think it would change since your status is basically what you make of it. Outside the university, no one is going to know the difference between a *gaikokujin kyoshi* and a regular faculty member anyway.

"Apart from being seen to be making the effort, as things stand now, the new measures will have no effect at all. When I heard about them, it never occurred to me that we were going to be offered a choice; personally I think it should be compulsory. The present system is unrealistic because they are overpaying us. But given the option of a 'fair' deal or an unfairly generous one, not many will take up the new *Mombusho* offer." Membership in the national university teacher's union is, apparently, still closed to foreigners despite the changes.

Salary data given by Mombusho would seem to support Andrew Grenville. For instance, the monthly average salary for a contracted foreigner aged about 37 would be around ¥950 while the Japanese faculty member of comparable age would earn about ¥655.

But *Mombusho* distorts the overall perspective by ignoring the substantial bonus payments (paid twice annually, adding 30–40 per cent on top of basic rates), seniority step increases, "base up" or cost of living payments (set by the Diet annually) and the effects of promotion, all factors available only to faculty members. Contracted foreigners like Andrew Grenville are generally paid additional amounts on top of their basic in lieu of bonuses and promotions, rather than what appears to be a foreigner's premium; but by his mid-40s, a permanent faculty member in Japan is much better off financially than his contracted counterpart.

Professor Alan Turney of Tokyo's Seisen Women's College exemplifies this, despite being a foreigner. Seisen is, like nearly three-quarters of Japanese colleges and universities, private; the private sector however, has always been able to take on foreigners as permanent faculty members and as such is unaffected by this new legislation.

When he became a permanent member of staff after six years on the standard three-year contracts (the duration of a work visa) offered to foreigners now lucky enough to find full time posts, his basic salary dropped initially. But this was soon more than compensated for by the addition of the bonuses, increments and "base up" previously denied him. Fourteen years on, these, along with promotions – he enjoys the rare distinction of being chairman of his department – have put him in a position considerably stronger financially and professionally than if he had remained on contract. But as he concedes, the overall benefit is long term, and foreigners teaching anywhere overseas generally have a short term perspective. Even those who have lived and taught in Japan for a decade find it hard to recognize precisely when they have opted to settle in Japan for good.

So why has such a legislative change come about now? Alan Turney puts it down to the ". . . big upsurge in at least nominal internationalism". Andrew Grenville feels there have also been internal pressures: "I think one main reason is dissatisfaction from Japanese faculty staff about better pay for younger and sometimes less qualified foreigners (ie a common inability to speak and read Japanese) who can also avoid administrative responsibilities."

Professor Kazuyuki Kitamura of Hiroshima University's Institute for Higher Education recently completed research on the internationalization of Japanese higher education. Although he feels that Japan ". . . can no longer see the world simply as a market in which skills and materials can be acquired and products sold," he is not alone in being sceptical about the effects of this change, at least in the short term. "The new legislation represents an enormous challenge to Japanese universities, accused in the past of being closed and parochial. They are dominated by factionalism and reluctant to open the professional appointments market even within Japan – one wonders whether such institutions are really capable of opening their doors to international participation".

For the time being, it looks, as one still firmly contracted foreigner put it, as if Japan is going to have to continue to buy the whole cow to get a glass of foreign milk.

Brains and political brawn

Everyone believed that this week's Italian general election offered an important opportunity for change but few believed that the Italian electors would vote for it. Instead all the signs were that another weak and quarrelsome coalition government would replace the one headed by Christian democrat Amintore Fanfani.

Disillusionment with the political parties was so strong that the maverick Radical Party had in fact called on electors to vote with blank ballots in protest and only as second choice to vote for its own candidates. As if to confirm everyone's low opinion of the politicians, a socialist candidate for parliament and four Socialist Party members involved in local government were arrested in Savona on charges of corruption only thirteen days before the election.

In an attempt to counteract this general disillusionment, the parties had been enticing respected figures from the cultural world to stand as candidates for parliament. These ranged from Carlo Giulio Argan, an art historian and the first left wing mayor of Rome, who is standing for the communists, to film director Franco Zeffirelli for the Christian democrats. The radicals even had Toni Negri as a candidate. The philosophy professor from Padua is currently on trial in Rome accused of being involved in terrorism.

One intellectual figure who has already done his stint in parliament and is not standing for reelection is the Sicilian writer Leonardo Sciascia, best known for his novels about the Mafia. Sciascia shares the general disillusionment with politics but says this is not why he is not standing again.

What persuaded him to change his mind was his desire to complete his work on the commission of inquiry into the death of the former premier Aldo Moro at the hands of the Red Brigades in 1978 and his work on the anti-Mafia commission.

He is not optimistic that the elections will bring about change. He sees the existence of a large Communist Party as an obstacle to change as it can never be allowed to hold power, just as the right could never come to power in Poland, while the Christian democrats maintain their supremacy because of the large block of voters who support them out of habit or self interest. If there is to be change, he believes that it will have to come from within the Christian Democrat Party.

Sciascia sympathizes with the disillusionment of the electorate. "I am 63 years old and since the war it has been a continual succession of disappointments". But he consoles himself with the thought that things could be worse. A danger inherent in the electorate's disaffection for parliament, according to Sciascia is that it could prepare the ground for "a totalitarianism of the new right, which is very strong and reaches even to the left.

"I spent the first 20 years of my life under fascism and I can tell you anything, even the disorder of today, is preferable."

The phenomenon of the Mafia he attributes to the long history of malgovernment in southern Italy, and its continued survival to its close links with the world of politics. But he expressed cautious optimism that the means and determination to defeat the Mafia now exists.

He pointed out that the old rural Mafia which he described in his novels has been replaced by the new Mafia of the international drugs trade: "Much more dangerous, vast and indefinable and I suspect the Secret Services are involved in some way."

While Sciascia was bowing out of the political arena to return to his writing, another eminent writer, Natalia Ginzburg, agreed to stand as a candidate for the first time for the Communist Party. She described her decision as an act of solidarity with the Communist Party in a difficult moment when many people were tempted not to vote. If elected she said she would concern herself principally with the problems of health and old people.

Philip Willan

E. Patrick McQuaid reports on the technology race between industry and universities in America

Beating them at their own game

Bit business, as it is generically known in the States, made the observation long ago that American schools weren't churning out the calibre of students, and certainlky not the numbers, needed to maintain an edge over foreign competitors in the swelling technological marketplace. What's more, as a panel of British and American engineers suggested during a symposium last year at the Massachusetts Institute of Technology, the bulk of technological experimentation and discovery was taking place in industrial laboratories with university scholars left to ponder the more elaborate theories behind these rapid developments.

To cope with this, most major American corporations now have their own education and training programmes and some have gone so far as to receive accreditation by state and regional agencies as well as from nationally respected professional associations. Wang Laboratories, the computer manufacturing firm based in Massachusetts (whose UK subsidiary is responsible for the new venture at Stirling University) has its own, degree-granting institute for programmers, analysts, and other computer specialists. Throughout the country it has been reported that some 400 firms have separate training centres for their employees offering intensive, often compacted, instruction in particular fields of management or operations.

Additionally, thousands of smaller proprietary computer schools have sprung up, usually in the larger population centres where the industries are grouped. Throughout the state of Massachusetts alone there are now an estimated 1,500 to 2,500 entry-level job openings for programmers. The jobs are not, for the most part, in the areas of high tech development, but in banks, insurance companies, and firms using computers extensively for their operations.

The average entry-level salary is $13,000 annually, according to data from the companies. More than 30 teachers, laid off after new tax cutting measures eliminated their positions, were retrained under a programme funded by the federal government and each found entry-level work in high tech averaging $19,000 salaries.

Virtually all students attending the Cambridge Institute for Computer Programming in Boston have college degrees, some of them advanced, and considerable work experience, according to the school's provost, Mr John Moss. The institute opened classes in 1980 and graduated 208 students following a 650-hour curriculum over six months. The average job placement is running 89 per cent with the average starting pay at $19,000.

The proliferation of these schools and in-house corporate training facilities, combined with declining enrolments among the traditional college-aged crowd, has American universities scrambling to come up with new, innovative programmes of their own. One of the most optimistic of these is scheduled to begin coordinating state industry, public (state) schools, and university research through an arrangement coordinated by the school of education at the University of Massachusetts. Dean of the graduate school and architect of the programme, Mr Mario Fantini, said the initial objective of the plan was to ease the critical shortage of talented science and maths teachers in the commonwealth's secondary schools but has since taken on much wider aims.

Called the maths/science/technology education project, it is open to graduate students holding bachelors or advanced degrees in mathematics or sciences. The first class of 20 to 30 students, recruited nationally, will enter a 14-month sequence of university course work with fulltime paid teaching internships and on-the-job training leading to a masters in education with certification for mathematics or sciences teaching at the secondary level.

Candidates for the programme must make a commitment to teach in the public sector for three years following graduation but will have the opportunity to keep other career options open, said Mr Fantini. Loans will be available for students and participants will be able to supplement their earnings with part-time and summer work in regional high tech firms.

Elsewhere, American higher education is rallying to meet rapidly growing demands through expanding continuing education (further education) programmes. Some of the more successful innovations include:

The *Lifelong Masters of Business Administration* programme at the University of Colorado at Denver which combines business management skills with computer applications. A similar programme, called management information systems is scheduled to begin at Boston University next autumn.

With more computer firms in need of on-site training, Clemson University has a programme in which it sends professors to the plants, such as Westinghouse, to teach courses on the latest developments in silicon chip technology.

The Amos Tuck School at Dartmouth College has its "executive programme" to broaden understanding of management roles, improve analytical and decision-making skills, and explore relationships between business and communities. Participants are senior-level executives from a variety of business backgrounds.

Two new courses designed for people facing new demands for job-related technical skills have been introduced at Cornell University. *Management Development for Women*, a one-year certificate programme for women with undergraduate degrees seeking job market re-entry is offered by Fairfield University while *College Without Walls* which provides women an opportunity to complete an undergraduate degree programme without returning to campus, is at Stephens College.

Richard Weekes reports on the University Games and the British students taking part

On their marks at Edmonton

The Prince and Princess of Wales will today be opening the Twelfth World University Games, or Universiade '83, in Edmonton, the capital of Alberta. Over 4,500 athletes from some 97 countries are taking part, making it the largest athletic event outside the Olympics and more than twice the size of the Commonwealth Games.

"We're ready for Di-day," said Ed Zemrau, president of the Universiade organizing committee last week. Five months ago such carefree words would not have passed Zemrau's lips, so busy was he complaining about Ottawa's parsimony towards the games.

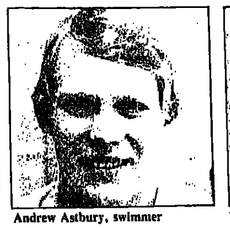
In February it appeared the event was heading for a substantial loss, but now he hopes to break even. Alex Fallow, chairman of the Universiade board of governors said recently: "Our projections suggest we are within around $150,000 of a break even situation."

The turn around has come largely from a belated decision by federal and provincial governments to guarantee some two-thirds of the Games' $32.7m operating budget. With neighbouring Calgary due to host the 1988 Winter Olympics, and the memory of bankruptcy at the Montreal Olympics still rankling, the Canadian authorities are conscious that their prestige is at stake in Edmonton.

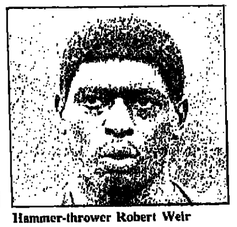
Ticket sales should bring in around $5.5m, with a further boost from the CBS, which is screening 12 hours of events. Zemrau said this deal was worth "1,000 per cent more than we got when we staged the Commonwealth Games here".

Britain's combined total of 110 competitors and officials is the highest ever to attend a Universiade. Mike Gee, general secretary of the British Universities Sports Federation said: "When we first looked at our resources, it seemed we'd be able to send only 20 or 30 athletes. But the sports themselves were so keen to be represented, they guaranteed to find the money."





Andrew Astbury, swimmer



Hammer-thrower Robert Weir

When the search for a major team sponsor drew a blank, every student picked for the team was asked to contribute £350 for the privilege of representing their country.

Dick Palmer, general secretary of the British Olympic Association and chairman of the British Student Sports Federation believes there is one lesson the students should learn.

"You do need a full-time fundraiser. At the BOA we employ an appeal secretary every two years for either the Olympics or Commonwealth Games. However, it is a fact that the British public are not very excited by the idea of the Student Games. And if a company receives two letters, one requesting money for the Olympics and the other for the Student Games, obviously they'll go for the Olympics."

The Sports Council provides a £30,000 grant towards the cost of travel. A recent separate sponsorship deal concluded with Guinness may also make extra funds available for Edmonton. But the BSSF feels that had Channel 4 made it known several months ago that it intended to screen two hours of Games coverage, the sponsorship picture might now look rather different.

Even so, the British team managers are pleased with the size of the party to the first Universiade ever held in a Commonwealth country. Although the athletics team recently lost middle-distance runner Steve Cram to injury and triple jumper Keith Connor to the academic demands of Southern Methodist University in Dallas, there are still several British competitors who hope to get medals.

Graham Williamson, who won a gold medal at 1,500 metres in the Mexico Universiade in 1979, will be running the 800 metres in Edmonton. Hammer-thrower Robert Weir, like the absent Connor an undergraduate at SMU, notched up a world indoor best early this year. For the women Beverley Kinch in the sprints and long jump and Judy Livermore in the heptathlon should both do well.

In the swimming pool the best British efforts may come from Andrew Astbury and Philip Hubble, both based in North American universities. Men's basketball recently made a welcome recruit when team manager Graham Rayner discovered that Clyde Vaughan, who led Pittsburgh to the NCAA eastern division championship in the US, finishing as top scorer in the division, holds a British passport. The team now believes it can make a dramatic improvement on its previous best Games record of thirteenth place in Moscow in 1973.

Several team managers have gone heavily for North American-based selections. In the case of tennis, not one of the players is studying in Britain. This is partly a question of making economies – it is a lot cheaper to send a student from, say North Carolina, than it is from Manchester or Loughborough.

But Mike Gee defends the practice on grounds of BSSF policy, which is to select the strongest possible team. "Many students go to North America because they know they can get better sports training there, and there's nothing wrong with that. Nobody objects, time in the US. Why should it be different for students?"

British athletes may not be setting them, but there is every indication that the XII Universiade will witness a number of world records, given the presence in Edmonton in a pre-Olympic year of full-strength squads from the US, the Soviet Union and the People's Republic of China.

The first world record at a World University Games was set by Beccali of Italy in the 1,500 metres in 1933, just 10 years after the inaugural International Student Games, as it was then called, was staged in Paris under the direction of Jean Petitjean.

The games expanded rapidly throughout the 1930s, with 26 countries – including Egypt, Brazil, China and Mexico – and over 1,000 athletes entering the Paris event in 1937. Three years after the end of the war international student sport split along cold war lines, with the International Union of Students in the East and the International University Sports Federation (FISU) in the West staging rival competitions.

Not until the late 1950s did Eastern and Western competitors come together again, and in 1959 the IUS agreed to dissolve itself within FISU following the Turin Universiade. Two years on in Sofia came Valery Brumel's shattering 7ft 5½in leap in the high jump, and in Tokyo in 19-7 the US swimming team, broke no less than 11 world records.

The last occasion world marks were broken was in Mexico City in 1969, when both 200 metre records fell, to Pietro Mennea of Italy and Marita Koch of East Germany.

This time the Americans and Soviets are sending 300 athletes apiece, with 230 arriving from China. The swimming and diving championships may well be the most fiercely contested of all, with the Russians including six world and Olympic champions in their squad and the US promising a similar number.

Training for honours and a degree of excellence

Sociology student and heptathlete Judy Livermore prepares for the Universiade



Judy Livermore competing in the Commonwealth Games in Brisbane.

"Imagine the impertinence," says John Anderson, "the sheer impertinence of believing you can be best in the world. If a doctor or a teacher said that, it would be laughable. But in athletics, if you're in it for more than recreation, the point is to discover your limits. And I believe Judy has the ability to win an Olympic gold medal."

For the next 12 months Judy Livermore's life will achieve a beautiful simplicity. She will take sabbatical leave from her sociology degree course at Birmingham Polytechnic and, under the watchful eye of her coach and mentor, John Anderson, submit herself totally to the demands of preparing for the heptathlon at the Los Angeles Olympics.

The heptathlon is of course itself a multidisciplinary event, but Livermore was never tempted to combine the Olympic run-up with academic work, especially in what would have been her finals year. She juggled with such rival demands once before, approaching her A levels while continuing with track and field and practising for an assault on Grade 6 piano. In the end Grade 6 beat her and she only just beat the A levels. "Proof," she says, "That you can't burn the candle at both ends."

Her polytechnic authorities have been consistently sympathetic. "We haven't tried to lighten her workload," says Ian McArdle, head of the social sciences faculty at Birmingham. "But we try to be flexible in allowing students of distinction like Judy to participate fully in athletics."

Livermore is just finishing the sandwich year of her degree, consisting of unpaid work as a junior planner with Nuneaton and Bedworth Borough Council, studying how town planning decisions are made. In the words of the course prospectus, her urban and community policy option.

After work each day, and at weekends, she does three hours of training for the seven disciplines of the heptathlon. Since her coach is the chief leisure and recreation officer at the council, liaison over training routines is no problem. But as from next week, Anderson will be stepping up the pace for his 22-year-old hopeful.

First major step on the road to Los Angeles comes next Wednesday in Edmonton, when she measures herself in Universiade '83 against, among others, Sabine Everts of West Germany, silver medallist in the European Championships in Athens last year.

Livermore finished fourth in Athens, setting a new Commonwealth and United Kingdom record of 6,286 points. That personal best still leaves her exactly 550 points adrift of the new world mark set recently by Ramona Neubert of East Germany, a woman she will certainly clash with at the World Championships in Helsinki in August.

Neither coach nor athlete are worrying too much about medals in Helsinki. The real work comes next winter when – sponsors permitting – Livermore will spend three months somewhere in the American sunbelt, honing her speed, strength and stamina to a fine pitch.

The heptathlon, like the decathlon for men, is not just the supreme test of all-round athletic ability. It also calls for extraordinary reserves of concentration, application and self-belief. "I believe Judy is innately more gifted than Neubert," says Anderson. "Her physical gifts are prodigious, but she also has an intellectual and emotional ability to transcend those inhibitions that would hold most of us back in competition.

"I can only describe it as a kind of split personality. I have seen her go into competitions totally unready, barely fit. But once out there she shut off the doubts, and came away with personal best performances." To which Livermore rejoins: "Yes, but unfortunately it doesn't happen like that in exams."

Born in Jamaica, Judy Livermore came to Britain at the age of one. Her parents – her father is a building contractor – were ambitious for their daughter. In addition to her musical, track and field activities, she has played school hockey and netball at county level and got her black belt in tai-kwondu.

The family settled in Rugby, which indirectly led her to the heptathlon. As Rugby athletic club was relatively weak, she found herself in demand for everything from sprints to throwing events during club competitions.

One parental ambition faltered when Livermore failed the first year of a law degree course at Chelmer Institute of Higher Education. Back home, her local careers service put her in touch with Birmingham Polytechnic, and she was was accepted for sociology. "I'm probably not going to get a good degree," she admits cheerfully, "but I'm determined to finish."

While her formal education has been something of a stop-go affair, there have been compensations since she teamed up with Anderson. At first it seems a strange, unlikely pairing – the 6ft black woman, head crowned with plaits and beads, and the short, middle-aged Scot, upright with just a hint of severity.

Yet appearances mislead. The plaits are merely a fashion preference in one possessed of surprising serenity and calm for her 22 years. And for all the 60-odd British internationals that have passed through Anderson's hands – David Moorcroft and David Bedord among them – one senses this may be the coach's favourite pupil.

The relationship between them is rather like a permanent tutorial. "John is my best friend," says Livermore, "but his value lies in knowing how to motivate me." Anderson extends the teaching analogy further. "Coaching is not just about training routines. For the younger athletes especially, it's just as important to discuss ideas, beliefs and philosophies."

It is the old Scottish faith in learning – athletics as personal growth. If the twin pressures on modern athletics are rampant commercialism and the application of technology, either via the use of drugs or by putting an athlete's training in the hands of a computer, Anderson and Livermore remain very much within an older British amateur tradition.

"I know I'll never make a fortune," says Livermore, "because I couldn't expect people to sit through a whole heptathlon competition. The big money will always go to those who draw the crowds."

Anderson points to his protege, David Moorcroft, as the proof that you don't need external aids to break world records. "I won't work with anyone who uses drugs. If that's blinkered and narrow-minded, I plead guilty to that.

"There's a tendency in some countries to see athletes more as performers than as people. I believe it's to our advantage that here coaches and athletes have to seek each other out, because we have that extra commitment."

Whatever Livermore achieves in Los Angeles, she will be helping to break ne ground for women's athletics. Early forms of the men's decathlon date from the eighth century BC, yet it was not until 1964 that the women's pentathlon entered the Olympic Games. The early version favoured sprinters and jumpers, so in Moscow the 800 metres was included as a test of real endurance. Two years ago the pentathlon gave way to the heptathlon, and it is this event – 100m hurdles, shot, high jump and 200m on day one; long jump, javelin and 800m on day two – that will make its Olympic entrance in Los Angeles.

The average age of the top 10 pentathletes at Montreal was 26, so it is possible that Livermore may make her strongest impact in the 1988 Olympics. For the moment, such questions are out of sight, out of mind. Only the lonely 12-month road to Los Angeles is in focus. "All I want to do is find my full potential. If I go through all this and fail, that's it. At least then I'll know."





Narrowing the gap between North and South: (top left) Leopold Senghor, ex-president of Senegal; (top right) President Julius Nyrere of Tanzania; (bottom) General Gowon of Nigeria with former British prime minister, Edward Heath, now a Brandt commissioner.

A new university-based colonialism? Stephen Chan

Leading thy neighbour

The question of aid to Third World countries is complex. It has always been agreed that aid should be temporary. Recommendations for an increase in aid flows, such as those made by the Brandt Commission, recognize the exceptional difficulties of development at the present time. But Brandt argues for the reform of the international economic order as the long-term solution to development difficulties, not an increase in aid alone.

Aid, as it is currently disbursed, is also an uneven affair. With the exception of five Arab countries, who give aid mainly to other Arab states, Scandinavian countries and the Netherlands, the nations of the world do not reach the UN target of 0.7 per cent of Gross National Product for development assistance.

In the budgets of donor countries, therefore, aid is a marginal entry. But it is also marginal in the budgets of most recipient countries, averaging about 2 per cent of GNP.

There are glaring exceptions to this rule. Countries in clear distress, such as Tanzania, depend upon aid for 12.7 per cent of GNP. Egypt receives aid equivalent to 15.2 per cent of GNP, and Israel 8.5 per cent of GNP – these last two countries benefiting from US political concerns, since 40 per cent of all US bilateral aid is channelled to them.

But, overall, as the Brandt Commission rightly recognized, the question of aid is considerably less vexed than that of international economic structures.

It is certainly true that much aid has been poorly disbursed and poorly utilized. The case against aid is, in fact, a strong one, but not overwhelming. On the negative side of the question is the fact that much bilateral aid is tied to the subsequent purchase of equipment, spares, and expertise from the donor country.

Aid is thus used as a marketing device, to the ultimate benefit of the donor, and at the cost, to the recipient, of market mobility in the case of purchases and future programme development in the sector in which tied-aid was received.

Further, the mechanics of giving untied aid becomes essentially a financial operation in itself. Deadlines must be met, and funds must flow out, sometimes willy-nilly, to ensure that the donor agency will, in the next financial year, have funds flowing in. Disbursal is judged by its efficiency, not its effectiveness, and this has led to appalling project sponsorships.

Finally, the lingering concept of aid as a charitable activity, with images of grossly deprived people who must be assisted out of Christian compassion, tends often to install an aid-orthodoxy which presupposes that the ways of reaching the poor are culturally identical to those used in the donor countries. For these and other reasons, aid is in a mess; hopefully, informed debate will lead to the overhaul of bad systems of aid disbursal, but not to the reduction or abolition of aid.

Certainly aid has helped to build many schools, colleges and universities; it has helped to train staff for these institutions. At university level it has engendered much genuine international cooperation and consultation, the case of the Association of Commonwealth Universities standing out. And, by a process of external examining, which often grew out of the manner in which a university was founded, it has maintained a uniformity, or recognized order, of standards.

The question of standards is, of course, central to the consideration of aid and higher education. Because standards have most frequently been assessed in relation to recognized curricula. Thus, a chemistry course in Khartum may, in fact, closely resemble one in London – whether or not that sort of course is directly related to the immediate scientific needs of the Sudany.

Why, therefore, continue underwriting this sort of thing? Why contribute to laboratory equipment? Why give graduate fellowships to future chemistry professors? Why, in short, fuel a process which leads seemingly nowhere?

There are four major reasons why such questions cannot lead to a simple answer. The questions themselves, when examined, arise from complex assumptions and needs.

For instance, since the raising of fees for overseas students in the UK, universities have actively advanced the case of overseas intake as important to them financially; and that, while overseas students can pay much to the universities, the government should not raise the threshold to the point where student numbers start falling away.

So the arguments in favour of overseas students have a financial flavour, rather than a pedagogic one. Courses in chemistry are not to be revised for their sake, or the sake of their national needs, but their presence in class, duly paid, is welcome none the less – an inverted and perhaps perverse version of tied-aid.

Foreign governments continue to be most anxious for their students to study in the UK. The question of student fees led to some minor but definite strains in Commonwealth relations. Governments were concerned about missing out on the established quality of British education, not the applicability of its content.

In this sort of atmosphere, a return to first principles – what the education is for – is difficult. Higher education becomes another agenda item in international negotiations, and another item in national lobbying exercises. The politics of the matter obscure its heart. Apart from political questions, four groups of considerations arise.

The development of Third World universities reflected metropolitan influence. In Commonwealth nations, the external system of London University was widely used. This was a matter of colonial policy, based on fiscal prudence as much as academic value, but it set the tone for future university development.

Meanwhile, nationalistic leaders were receiving higher education in western countries and saw the absence of universities in their own lands as a further proof of colonial deprivation. At independence, universities began to be built, and were intended deliberately to reflect international standards – now that the nation itself was a full and ostensibly equal member of the international community.

Influential reports, such as that by Ashby on behalf of Nigerian university expansion, fuelled the desire to take a place on what Ashby called an international gold standard – on which a degree from Cambridge, Cornell, or an African university could be regarded equally.

The question of comparability remains a major one. Universities judge themselves on where they stand in the international rankings. It is, at least, a matter of natural institutional pride, but it reflects also the continuing influence of established western academic standards, and their percolation down to the fledgling institutions of the Third World.

There is, besides, no other model for the new universities to emulate. All over the world, the matters of standards and degree quality are serious ones, and the treatment of institutions judged beyond the pale is enough to keep the latest entrants in the academic world firmly on the staight and narrow.

It is, in any case, a very risky business to bluze new ground, and to do so without incurring raised eyebrows or even outright disapproval. How, for instance, is a Third World university to establish a chemistry course that is relevant to national needs, and which still reaches international standards? Who is there, internationally, who can judge the standard of a curriculum that is peculiarly national, that has been purposely removed from the accepted international mould? And, if a national curriculum is adopted, and a standard agreed, who is there to train or retrain the professors so that they might first teach the new curriculum and second teach it to acceptable standards?

When the University of Papua New Guinea was established, the idea was to inaugurate a medical degree that was peculiarly tropical in its content. So much so that graduates were not expected to be able to register as doctors anywhere else, not even in other tropical countries – for the degree was strictly intended for Papua New Guinea consumption. Now, whether this innovation lasted or not, and I don't think it did, it was made possible in the first place only by considerable foreign aid. Australia has a fixed interest in Papua New Guinea, being the former colonial power, and gives 60 per cent of its bilateral aid to that country. There was no question of a self-help effort in the case of the medical faculty, nor was there the possibility of one. The expertise, support, standing, and acceptability of pathfinding efforts are beyond the tenacity of most Third World universities.

Development, finally, is not a static venture. Tracer study after tracer study in Third World universities, on the placement of graduates and the current and future demand for more of the same, has been overturned by events.

When one considers the remarkable developments since independence of, say, African countries, in terms of educational, medical and administrative services, one considers that the rush for higher education has not been at all disproportionate to the needs of these countries. In Zambia, there were 99 graduates at the time of independence; now promotion in the civil service depends on graduation and, in some departments, so does entry.

With the public sector on its way to being staffed at a level one would consider desirable in a national enterprise, graduates and researchers must now be sought for an expanding private sector.

The first foundation of African universities usually stressed a balance among faculties. This often meant some were less immediately important than others, but the objective was the establishment of an identifiable university which contained a range of expertise. Without such first foundations, the move in countries such as Nigeria to specialized universities of technology could not have been comfortably made.

The question of aid for higher education in the Third World would certainly benefit from the same level of examination required by the question of aid in general. But this is not an area of snap judgments, particularly when in terms of the historical development of Third World universities this country played a very major role: particularly when in terms of the international acceptability degrees this country and other developed countries do so much to fix standards; particularly when the universities of developed countries do so little to help their developing colleagues to establish pathfinding curricula; and particularly given the essential lack of a foundation on which to judge what is developmentally rational and what is not.

In short, the higher education the UK aids is the higher education the UK helped develop and sustain, but which it does not and cannot change. Change will certainly come as the Third World universities themselves gain maturity and self-confidence, and may then be truly assisted if first world universities abandon their own insularity.

But it makes little sense to love one's neighbours by first leading them up a prescribed path and then, with a few gratuitous words of why they should now find their own different path, leave them.

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considers the educational implications of overseas aid

up the garden path





Technology transfer: have Africans become too dependent on western scientific achievements and are they trained to be awed by science rather than to master it?

Ali A. Mazrui looks at Africa's role in the search for a new international technological order

Ploughing fresh furrows

central economic role. But with the coming of the hoe and settled agriculture the primacy of the male in the economy could no longer be taken for granted. On the contrary many hoe societies have been known to develop a central economic role for the women. Wives take to the shambas and become quite often economically more important than their husbands.

But with the coming of the plough, pulled by an animal, men in the history of Europe and Asia became once again the main providers of food. The control of the animal pulling the plough was deemed to be a man's job – more so than the use of the hoe to cultivate a little plot of land. This itself had a variety of other social and cultural consequences. In the Middle East patrilinealism began to reassert itself among the ploughing peoples. Even religion began to respond to these changes. Male deities and male priests, characterizing the new social organization of the Fertile Crescent, may also have been connected with the new masculine role in agriculture.

In part of East Africa the stabilization of the ox-plough as the central aspect of agriculture could also effect such social arrangements as the division of labour between men and women in the economy. Labour migration in East Africa, with men going to the towns and mines while women tend the farms, could be significantly modified if not arrested. If the man is now needed at home to control the ox that pulls the plough, and it is no longer easy to leave domestic agriculture in the rural areas to women alone, an extra incentive will have come into being to keep the African male tied to his soil – and thus discourage the male drift to the cities and the mines. The men would thus be kept busy in the rural areas, tending the oxen and sharpening the plough blades.

President Julius Nyerere of Tanzania did grasp fairly early that even a move from the hoe to the plough could be a major technological change. Indeed, although Nyerere believes in an ideological revolution, he also believes in technological gradualism. In matters concerned with the relations between man and man, Nyerere is a revolutionary. But in matters concerned with relations between man and machines, Nyerere is a gradualist. He is in favour of rapid elimination of class divisions as a basis of relationship between man and man. But he is against pushing technological change so fast that village life is prematurely disrupted, and dependence on outside powers increased. Rapid mechanization and industrialization increases dependence on technologically more advanced countries. But a slower pace of technological change could both preserve village life from premature bewilderment and contribute towards genuine self-reliance.

As Julius Nyerere said to his people: "Instead of aiming at large farms using tractors and other modern equipment and employing agricultural labourers we should be aiming at having ox-ploughs all over the country. The *jembe* (hoe) will have to be eliminated by the ox plough before the latter can be eliminated by the tractor. We cannot hope to eliminate the *jempe* by the tractor.

Nyerere emphasized other aspects of technological gradualism as a method of ensuring that the nation developed from its own roots, and preserved that which was valuable in its own traditional past.

Uganda from time to time has also tried a new emphasis on rural development and agricultural training. The policy proclaimed in 1971 of introducing agriculture in as many schools in the country as possible was certainly in the direction of helping the nation to grow from its own roots and avoid too big a cleaveage between those who worked on the farms and those who entered other areas of national endeavour. Until now education in Africa as a whole has been a process of deruralization – a method of severing the ties with rural life. The introduction of agricultural training in schools should help to reduce this role of education as a process of depopulating the countryside.

Nor must we forget the political implications of changes in military technology in East Africa. There are still parts of Africa where military skills are assessed in terms of prowess in handling spears and in the use of the bow and arrow. If our weapons were still spears and bows and arrows it would have been difficult to create a nation-state even on the relatively small size of Uganda. Building states requires the centralization of power and consolidation of authority and a monopolization of violence as far as possible. It has been well said that the bow and arrow is essentially a democratic weapon. As Dr Jack Goody, of the University of Cambridge, said of this weapon: "every man knows how to construct one; the materials are readily available, the techniques uncomplicated, the missiles easy to replace (though more difficult with the introduction of iron that affected even hunting people like the Hadze of Tanzania and the Bushmen of the Kalahari). With the technologies of the bow and stone-tipped arrow every kind of centralization of power is almost impossible. But with the introduction of metals, kingdoms and states are on the cards."

With the coming of the rifle in colonial Africa, and the tank in independent Africa, there emerged specialization in military techniques. The old days of military democracy, when everyone passed through the warrior stage, and the weapons were the simple ones capable of being manufactured by the warrior himself, were now replaced by the era of military professional specialists, with weapons requiring high technological skill to manufacture and some specialized training to use. In the totality of concentrated technological power of destruction, the armed forces in an African country are now in a position to assert periodically special rights of political primacy and power.

Yet how real is technological power based almost entirely upon imported hardware? Is Africa a "technological power" at all in modern terms?

The total industrial output of the developing countries generally has been estimated at about 7 per cent of the total industrial output of the world. Half of the Third World's industrial population occurs in Latin America. Africa's share of the world industrial output accounts for less than 1 per cent of the total. One consequence for the Third World as a whole is acute technological dependency.

As Nyerere said: "Owing to relatively small output of machinery and input commodities, highly insignificant industrial research and development, and a relative dearth of skilled personnel, the majority of developing countries are completely dependent for their industrialization upon companies in the developed countries. They have to buy a technology developed by and for the big international corporations. An estimated 5 per cent of the export revenues of the developing countries are used to pay for imported technology (licences, royalties).

But does this amount to effective "technology transfer"? Is the dependency temporary? "Technology transfer" is a comprehensive term which encompasses both short-term and long-term technological movements, from computers on lease to African countries to the establishment of local institutes of technology. What fits and what does not fit is subsumed under "technology transfer".

In contrast, "technology transplant" borrows a metaphor from biology to imply the need for receptivity in the host body. Some compatibility is needed between the thing "transplanted" (be it a heart or a seed) and the recipient.

Our first proposition in this assessment is that there has been a considerable amount of technology transplant to the Third World in the last 30 years – but very little technology transplant. Especially in Africa very little of what has been transferred has in fact been successfully transplanted. Very little has taken root. The question is: Why? While the normative climate is favourable to technology transplant, the structural and sociological soil is still relatively barren. While indeed there is interest in, and enthusiasm for, a technological culture, the actual sociological soil still tends to reject what is being transplanted.

The climate of opinion in much of the Third World favours moves towards "modernization", "industrialization", more efficient "rural development" and faster modes of travel. Apart from a few poets and philosophers, there are no major agrarian movements opposed to industrialism and technology change. Even in revolutionary Iran the passions are directed more against cultural westernization than against industrial modernization.

India loves and reveres the late Mahatma Gandhi, but even those contemporary Indians who favour cottage industries often tend to see them more as an additional developmental strategy, rather than as an alternative to the Tatas and the steel industries. The more militant economic Gandhians (urging a return to economic simplicity) have so far had little impact on policy or indeed on organized mass opinion.

Africa and the West Indies have also produced from time to time dedicated economic primitivists. The whole negritude school in Africa and the West Indies has at times included nostalgia for the economic simplicity of the African past.

Africa's most distinguished champion of negritude is Leopold Senghor. But although Senghor was president of Senegal for more than 20 years, he did not embark on a programme of revived simplicity. On the contrary, official policy in Senegal under Senghor was in the direction of the expanding industrial and monetary sector.

What all this means is that the religion of industrialism is not in danger in the Third World. Even countries like Burma and the People's Republic of China – which turned their backs for a while on the lure of western technology – have more recently shown signs of renewed fascination with that technology.

It is because of these considerations that the normative climate for technology transplant appears – at least on first estimate – favourable in most of the Third World. Parents are eager to send their children to western-type schools: governments are eager to formulate five-year plans; there are technical experts galore temporarily imported from outside. With such a favourable climate, why is not the plant of technology taking root? Yes, why?

This is what brings us back to the metaphor of a barren soil. We see the soil in terms of the sociology of the society in relation to its structural links with the outside world. This soil is not congenial.

Consumption patterns are a reflection of values, either new or old. Production techniques would have been a reflection of skills. The west has been more successful in popularizing its values and tastes than in transplanting its skills. This imbalance has often been deliberate. Creating a taste for western goods without a local capability for producing them was often more profitable for the west than exporting both tastes and techniques.

Even in exporting capitalism as a system the west has been more effective in exporting the profit motive than the entrepreneurial skills. The profit motive is a desire for profit. It is not necessarily a skill in obtaining it.

African businesspeople in places like Nigeria, the Ivory Coast and Kenya are eager enough to maximize their returns. But many are more comfortable sitting on boards of directors than trying out new trading techniques. Risk-taking as an aspect of creative entrepreneurship is often underdeveloped in the Third World. Easy money and safe investment are preferred.

Even the western puritanical principle of "Make money – but do not spend it," is honoured in the breach. Money is made – but promptly spent ostantatiously. Reinvestment in better equipment or more effective techniques is seldom elevated to a priority. When new equipment is bought it is the wrong equipment.

As for the Protestant principle of "industriousness" (or the work ethic) as a moral principle, this is often more characteristic of African peasants than of the African bourgeoisie. The latter have indeed been converted to the profit motive in many parts of Africa – but even when they are religiously Protestants, they have not necessarily been converted to the "Protestant ethic" in the classical economic sense that Max Weber reminded us about in his study *The Protestant Ethic and the Spirit of Capitalism*. The profit motive is strong in much of Africa, but entrepreneurship is still weak. This is part of the barrenness of the sociological soil for effective transplantation of relevant technology.

Even the educational systems in Africa are better in transmitting western values and tastes than western skills and techniques. The schools bequeathed by colonialism are instruments of cultural re-orientation and not instruments of economic transformation. In the classroom there is acculturation rather than training, the cultivation of the arts of conversation rather than the transfer of techniques of production.

African universities are on the whole designed to produce communicators rather than creators, masters of verbal and literary "skills" rather than practitioners of the craft of innovation. Colonialism preferred imitative communicators to innovative creators. Colonial schools were designed accordingly.

Scientism rather than the scientific spirit emerged out of colonial educational structures. The ideology of "modern scientism" rather than the principle of genuine scientificity held sway on graduation day and beyond. Africans were trained to be awed by science rather than to master it, to be impressed by western scientific achievements rather than to cultivate their own scientific self-confidence. The ideology of scientism made Africans not only awed by western science but helplessly dependent upon it psychologically.

These are some of the contradictions which have gone towards making the post-colonial soil so inhospitable for effective technology transplantation. The climate of opinion is still in favour of technological development – but fundamental changes are needed sociologically and structurally.

To carry the metaphor of the soil a stage further, fertilizers are needed to help enrich the soil and enable the plant of new technology to take root. It is not enough to complain about North-South abuses and the genuine excesses of transnational corporations. It is not enough to focus on limitations of copyright and patent, or excesses of exploitation, real as these problems are. Sooner or later we have to confront the deficiencies of the host soil – those caused by colonial distortions and those caused by indigenous cultural divergences. What may be at stake are factors which range from motivation patterns to educational systems, from a distorted Protestant ethic to the imbalances of the world economy.

The quest for a new international technological order must begin with the issue of fertilizers – technological fertilizers to enrich the host soil in the Third World and make it more receptive to the genuine transplantation of the skills of production and the craft of innovation.

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Peter Knight looks at the latest changes in allocating funds to the colleges and polytechnics

Ripples in the pool

The allocation of the advanced further education pool for 1983/84 has now been announced. This will be the fourth year in which the pool has been "capped", and the second year in which unit funding has been used to distribute it. A system of unit costs is usually designed to achieve two objectives. First, it should ensure that any shortfall in the amount of money available is largely met by those institutions that are perceived to be more expensive. Second, it should recognize that different types of course cost different amounts to run and as far as possible it should provide those different sums. An obvious question is how successful is the method that has been used in 1983/84 in achieving those objectives.

The basic structure of the 1983/84 allocation is similar to that used in the current financial year. It employs the concept of "common funding", whereby the majority of the quantum is distributed on a straight unit cost basis; it also has a system of "further funding" that provides mitigation to prevent too great a rate of change. However, while the structure of common and further funding is not unfamiliar the actual operation of those two systems has changed significantly from the current financial year.

The easiest changes to appreciate have occurred in common funding. In 1982/83 this varied between different types of institutions. The polytechnics had a different amount of money in common funding from the other major establishments. For laboratory-based subjects the polytechnics received, from common funding, £3,851 for each student, (the OMEs were allocated £2,482); for non-laboratory subjects the polytechnics received £1,929 per student as against the allocation to the OMEs of £2,092. These figures have some interesting features. The polytechnics received substantially more money for their laboratory students than the OMEs and slightly less money from their non-laboratory students. This was a result of a calculation that looked at the number of staff teaching in each type of activity in each institution and allocated money as a result. As there were different teaching patterns between polytechnics and the OMEs different figures resulted from the calculations.

In 1983/84 there is no difference in the allocation of common funding as between types of institution. Consequently the comparable figures for all colleges in 1983/84 are for laboratory students £2,957 and for non-laboratory students £2,112. All these figures are actual allocations in cash.

The most superficial inspection of the unit costs in common funding between 1983/84 and the figures that were provided for 1982/83 will show that substantial changes have taken place. There are a number of minor reasons for this and one major one. The minor reasons include the fact that the student numbers upon which common funding was based have been moved forward from November 1980 to November 1981. An additional factor is that for the 1982/83 allocation the quantum was divided into two sub-quanta, one for the polytechnics and one for the OMEs, before common funding was applied. This allowed the Department of Education and Science to massage those two sub-quanta to include such factors as a penalty for the OMEs for their alleged failure to reduce their unit costs as quickly as the polytechnics.

The most significant change between these two years is that in 1982/83 the student-staff ratios and the unit costs were derived from a count of students and a count of members of staff undertaking advanced work. The student count was of students enrolled on courses given by the Further Education Statistical Record. The staff count was of members of staff derived, as far as is possible from the Annual Monitoring Survey. Unfortunately the classification between laboratory and non-laboratory subjects between these two surveys is not consistent. Hence students in certain subject areas were classified as non-laboratory-based while the staff who were teaching them were regarded as laboratory-based. This produced a low student-staff ratio for laboratory-based subjects and hence a high unit cost and for non-laboratory subjects a high student-staff ratio and a low unit cost.

The subjects where this was particularly marked were mathematics and computing. As can be seen for the polytechnics this gave a cost differential between laboratory and non-laboratory subjects of nearly 2:1. This was not an accurate reflection of the actual costs that operated over the system as a whole.

For 1983/84 common funding has been based on the traditional weighting between laboratory and non-laboratory based subjects of 1.4:1. Such investigations that have been possible show that this is a fair assessment of the actual differences in costs. Never the less it is a very substantial change. If no other factors intervened it would mean that institutions would get 30 per cent less funding for every laboratory-based student in the coming financial year. A corresponding increase will occur for those students doing non-laboratory subjects. This is probably the largest single change in the common funding and it represents the movement of about £30m around the system between these two years.

The whole of the allocation system contains errors and inequalities

A desirable feature fo the common funding system for 1983/84 is that the same unit of funding is applied to all institutions. As the purpose of the pool is to fund students who are involved on courses then it is not unreasonable that the same course should attract the same amount of money irrespective of the type of institution in which that course happens to be taught. While there will clearly be differences of view as to whether institutions should have different weightings just because of their designation, a common system over colleges is an important step along the road towards a system of programme finance where greater account can be taken of the different costs resulting from various types of course. If a common system was not applied over all types of institution then moving to programme funding of this type would be exceptionally difficult if not impossible.

To summarize, the common funding allocation to a college is simply the student numbers that the college had enrolled in November 1981 multiplied by the two unit costs of £2,957 for laboratory-based subjects and £2,112 for non-laboratory subjects.

In arriving at the count of student numbers one significant change was introduced. The weighting for part-time day students and evening-only students was increased. The conversion factor into full time equivalent for part-time day and evening students was raised from 0.35 to 0.40 and for evening-only students from 0.15 to 0.20. This would mean a 25 per cent increase in the amount of money that an evening-only student attracted and a 16 per cent increase in the amount that a part-time day student attracted. This was included in the 1983/84 allocation as a "signal to the system". It was intended to encourage colleges to recruit part-time students rather than concentrating on their full-time and sandwich work. As will be seen the signal is now more blurred than was originally intended because of decisions that were taken later.

A further small change in the count of student numbers was that students who are undertaking work in computing and related disciplines were regarded as laboratory-based for the purpose of the 1983/84 allocation rather than non-laboratory which had been their position in 1982/83. Interestingly the Welsh Advisory Body also reclassified librarianship to a laboratory-based subject but this decision was not mirrored in the National Advisory Body.

Once the system of common funding had been agreed the main political arguments centred on how the further funding system should be operated. Further funding distributes a comparatively small proportion of the quantum. It is now set at 12 per cent. The original purpose of further funding was to provide some cushion for institutions that had historically been high unit cost against the consequences of an inadequate pool allocation going to them from common funding. It is probably becoming accepted that there is an additional feature of further funding. This is that it should be recognized that the whole of the allocation system contains errors and inequalities. Hence further funding provides a smoothing out of these errors by cushioning institutions against the worst effect of them. The starting point for calculating further funding was to look at the amount of money each college had actually spent in 1981/82 (the year before unit costing was fully introduced) and compare this with the amount of money allocated by common funding in 1983/84. Any deficit represented the extent of the cut that was being imposed upon them and hence the claim that they could make on further funding.

Once further funding had been fixed as a percentage of the quantum the only remaining issue was the maximum reduction that was regarded as achievable for an institution between 1981/82 and 1983/84. The effective choices narrowed down to a maximum of either 15 per cent or 20 per cent. For the polytechnics only three institutions would have been affected by this decision. The polytechnics of North-East London, Brighton and Teesside had reductions significantly in excess of 15 per cent. Hence if the maximum reduction had been set at 20 per cent these three colleges would have been affected more seriously than others. For the OMEs, 14 of the major institutions would have been affected by a reduction of 20 per cent rather than 15 per cent. After a discussion that can be politely described as difficult the NAB board voted by eight votes to nine to adopt a limit of 15 per cent on the maximum reduction that should occur between 1981/82 and 1983/84. The counter-proposal was that the polytechnics' unit of funding should be increased by 10 per cent in recognition of the additional costs associated with degree and research type activities.

One of the reasons for the concern of the polytechnics was that any comparison between the 1982/83 and 1983/84 allocations showed that the polytechnics seemed to be taking a larger share of reduction than the other colleges. The polytechnics' share of the quantum was smaller for 1983/84 than it had been for 1981/82. There are three reasons why the share of the quantum that the polytechnics attracted was reduced. First the other colleges had increased their student numbers by more than the polytechnics. Hence the moment the decision was taken to use November 1981 student numbers rather than November 1980 the polytechnics share of the quantum was reduced. The decision to roll forward student numbers had to be taken so that so far as possible the AFE pool should fund students where they are now rather than where they had been. The second reason for the reduction in the polytechnics' allocations was not actually a reduction at all. In the announcement of the 1982/83 pool the entire catering and residence costs for the whole authority was allocated to the polytechnics' proportion where the authority had a polytechnic. Hence this money was, quite properly, removed from the polytechnics' budget within the authority as it was never intended to be allocated to that college. Third the reduction that occurred in the unit cost of laboratory-based students adversely affected the polytechnics more than it did the other colleges.

The aggregate effect of these three changes put the NAB committee in a difficult position. Essentially it was now being argued that by relating further funding to the amount of money that had been spent in 1981/82 was ignoring the money that the NAB allocated in 1982/83. As a college's expenditure was likely to be heavily influenced by 1982/83, which was the first year in which full unit costing was introduced, this was not an acceptable procedure.

The NAB solved the political difficulties but left the technical problems

A solution to this problem was devised which, while complex, was also masterly. The objectives that had to be met by the solution were first that it pay some attention to the allocation in 1982/83 and second that it should not sacrifice the principle of providing the same level of common funding to each institution irrespective of its type.

The proposal that was finally agreed in the committee was that further funding should now be toughened so that institutions could be required to take a maximum reduction of 20 per cent rather than 15 per cent between 1981/82 and 1983/84. The common funding and further funding could then be added up for each college and compared with the allocation received in 1982/83. After appropriate adjustments had been made to reprice the figures to ensure that they were comparable, colleges were allocated half the difference between their 1982/83 allocation and their allocation for 1983/84 based on common funding as has already been described and further funding with a maximum reduction of 20 per cent.

The overall effect of this proposal, which applied to all institutions and authorities equally, was that the polytechnics' share of the quantum increased by 2.3 per cent (from 64.6 to 66.9 per cent). This increase was directly due to the fact that they had had a higher share of the quantum in 1982/83 (68.4 per cent). A secondary effect of the decision was that a number of improvements that had been introduced in 1983/84 were now of less effect. The enhancement for part-time students, the placing of computing in laboratory-based subjects, and the correct cost differential between laboratory and non-laboratory-based subjects will now all have less significance. This is simply because they were not incorporated in the 1982/83 allocation but only in the 1983/84. Therefore in financial terms their effect is only 50 per cent of the effect that they should have had had this modification not taken place. These particular signals to the system are now shrouded in fog and remain important only as statements of future intent rather than as mechanisms that guided money into particular directions.

There are numerable other problems of a technical nature in the distribution system. While the NAB committee solved the political difficulty it has left us its heritage the technical problems and errors that existed in 1982/83 and carried them forward for one further financial year. That is particularly sad as the 1983/84 financial year will be the one immediately before the NAB attempts to move to programme finance in 1984/85.

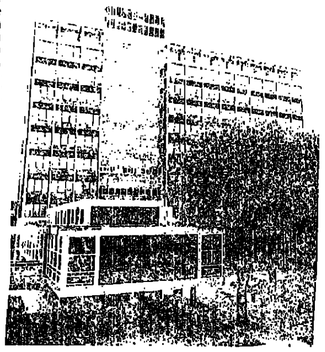
Whatever the faults of the distribution system it is now determined for the coming financial year. However, there is one major problem which was not foreseen at the time that the allocations were made. This is the financial consequences of the decisions of the Law Lords on the question of "ordinarily resident" of students who had previously been given overseas student status.

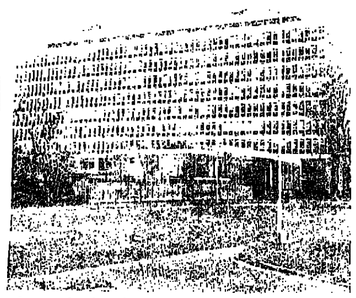
The pool allocation to institutions assumes that they will receive a certain amount of income from overseas student fees. The assumptions of income are based on the historic number of overseas students that that institution has recruited. Now an unknown, but in many cases high, proportion of those overseas students will be only required to pay the home student fees if the Law Lords' decision has general applicability. Therefore, colleges will not be receiving a significant source of income that they were assumed to be having available. In some institutions the losses could be of substantial proportions; in others the effect is marginal or small. Over the system as a whole it is exceptionally difficult to make a reliable estimate of the loss of income from this source in 1983/84.

So there are two immediate problems. First, action ought to have been taken to increase the quantum to compensate for the total loss of fee income that is likely to occur. Second, whatever is done in relation to the quantum the distribution of the present quantum is now based on assumptions about income from overseas students which are no longer valid for individual colleges. Hence there will be disparities over the system as a result.

It would be pleasant to be able to argue that the second year of a unit funding system is a significant improvement on the methods adopted in the first year. I do not believe that such an argument can easily be sustained. We now know far more about how the system operates, the sources of data that have to be used, and the accidental effects of inconsistencies within that data. Never the less for valid political reasons all that knowledge has not been used. Equally external factors, completely outside the control of the NAB or the DES, have disrupted some of the principles upon which the allocation was done. Let us hope that the capricious effects that are still within the funding system can at least be reduced when the move to programme finance takes place in 1984/85.

The author is a deputy director at Preston Polytechnic and a nominee of the National Association of Teachers in Further and Higher Education on the NAB board.





The polytechnics of Teesside (left) and Brighton where reductions between 1981/82 and 1983/84 were significantly above 15 per cent.

BOOKS

An emblematic prime minister

by John Gooch

Finest Hour: Winston S. Churchill 1939-1941
by Martin Gilbert
Heinemann, £15.95
ISBN 0 434 29187 0

In 1940, Winston Churchill was presented by Hitler with a challenge which he was sublimely well equipped to meet. Taking the political helm from Neville Chamberlain's faltering hand, he made the war his own by exerting personal control at every level. Then, after it was all over, he wrote a six-volume account which was carefully constructed in order to provide an historical justification for the faith which had kept him going during the period when Britain stood alone: that a "special relationship" which linked together Great Britain and the United States in some ill-defined but indissoluble way would eventually compel America to enter the war and help Britain win it. During the first 27 months of the war Churchill poured all his energies into battling Hitler and wooing Roosevelt. In seeking to "tell Churchill's personal story from September 1939 to December 1941" Martin Gilbert has adopted a vantage point which, while it has its limitations, allows him to display all those qualities, both positive and negative, which enabled "Winnie" to face up to the German challenge.

When Churchill returned to the Admiralty in September 1939 his pleasure at being back in familiar surroundings once again was almost palpable. He threw himself immediately into the business of war and at once displayed the streak of strategic impetuosity which had led to the debacle at Gallipoli, calling for the Navy to force a passage into the Baltic and demanding that an army of forty divisions be created within twelve months. Chamberlain's entirely justifiable rejection of the latter demand prompts Churchill's biographer to emerge from behind a mountain of documentation and offer a rare personal judgment: "once again the priorities of war policy were imposed not by the needs of the strategic situation, but by the dictates of neglect". Assuming that these two considerations pointed in opposite directions – which they did not – this seems to suggest that Britain would have been better off in 1940 with more tanks and guns at the price of fewer Hurricanes and Spitfires. The biographer seems to have sided a little too hastily with his subject on this occasion.

During the winter of 1939-40 Churchill became preoccupied with the need to interrupt the ore supplies reaching Germany from Scandinavia. In the last resort he was prepared to mine Norwegian territorial waters to stop it, but wider vistas opened up when the Russo-Finnish war began on November 30, and he now proposed getting Norway and Sweden involved in that conflict and then moving in to help them, and in so doing shutting off their ore trade with the enemy. To contemplate a war against Russia so light-heartedly was sheer foolishness: not only would it have piled up the odds against Britain to even higher levels, but it also went against Churchill's own estimation of the value of the partition of Poland in mid-September, which had given Hitler an eastern front he must guard and thus hindered his attacking the west. Drawing Russia into a war against Britain would have cemented the Berlin-Moscow axis more firmly together, at least for long enough to put paid to Britain and France. And in any case Scandinavian ore was not as vital to the German war economy as Churchill supposed, and could easily be substituted by supplies from Spain and Yugoslavia.

The nightmarish possibility of a Russo-British war disappeared when the Finns providentially sued for peace on March 13, 1940, and Churchill went back to his earlier option. The mining of Norwegian territorial waters began on April 8, and the German landings in Norway which began the following day simply reinforced his determination to land a force at Narvik. This ill-considered venture, which finally ended in withdrawal in the first week of June, demonstrated the wilder side of Churchill's nature and he was lucky that his political reputation survived it. As his wife Clemmie shrewdly noted in the margin of his postwar account of the whole episode, "Had it not been for your years in exile + repeated warnings re. the German peril, Norway might well have ruined you". Churchill needed restraint, and later on in the war the Chiefs of Staff provided it – although their master was never as ready to defer to them as is suggested here. At the Admiralty he rode on a looser rein.

By the time that the attack on Narvik was finally launched on May 28, 1940 Churchill had already become Prime Minister. He did so by the uncharacteristic act of keeping his mouth shut. What qualified him to succeed Chamberlain, as Mr Gilbert very successfully demonstrates, was his performance in the Commons, which was masterful. However, this might well not have been enough, for although the Labour Party would not join a national government led by Chamberlain they were apparently prepared to serve under Halifax. Advised by a friend to hold his tongue at the critical meeting with Chamberlain and Halifax, Churchill did so, and Halifax talked himself out of the job. On the morning of May 10 the Germans invaded France, and by the evening Churchill was premier. He was perhaps not quite so unwaveringly pugnacious at that moment as he appears to have been: an entry in Chamberlain's diary for May 26 to the effect that the new Prime Minister would jump at the chance of getting Britain and himself out of a jam by handing over Malta, Gibraltar and some African colonies if it were possible is not cited. But he was certainly now in an office better suited to his talents; in the wise words of Sir Ian Jacob "Winston's mind was so immensely active, he could only be Prime Minister".

After the collapse of France, Churchill's stand of resolute defiance was grounded in the certainty that America must intervene on Britain's behalf to an ever-increasing degree until she finally became a fully-fledged belligerent. The prospect that America would come to the rescue of the mother country in the face of a threat to deeply-shared values was the only card in Churchill's hand in the summer of 1940 and he played it repeatedly, both then and later. It certainly seems to have won over his biographer, who writes that in mid-May 1940 both General Marshall and Henry Morgenthau were "willing to authorize the despatch of essential and costly war materials to nations that might not preserve their independence for another six months, or even six weeks". This is well wide of the mark. On May 22 Marshall urged that the United States concentrate on hemispheric defence, the only strategy which was within her current capabilities, and during June he and Admiral Stark pressed Roosevelt to curtail aid to Britain. The Churchillian view of Anglo-American relations colours Gilbert's account at a number of crucial points, but the facts themselves suggest a different interpretation. Churchill first asked for the loan of "40 or 50 of your older destroyers" on May 15, 1940 but he did not get them for three and a half months, despite repeated efforts. American help for Britain was a rational act of investment, made after careful calculation; it was not a warm-hearted donation to an indigent relative.

The immediate threat in the summer of 1940 was that of invasion, and decrypted material from the German ENIGMA cypher machine proved invaluable in throwing some light on enemy intentions in this, and other respects. To meet the physical challenge, Churchill had his own pet solution: "Leopard Groups", instituted on June 28, which were to be held no more than four hours from the coast and were to fall upon an invader after he had landed and while he lay sprawled on the beaches. Seeing the war from a Churchill's-eye viewpoint, Martin Gilbert passes over this in a sentence, leaving the reader unaware of the chaos which the Prime Minister generated by completely disregarding the accepted service view that the best chance of fending off an invasion was by meeting it on the beaches and by insisting on quite a different strategic logic. The Leopard Groups were never put to the test, but the manner in which they were created says a lot about Churchill's relationship with the professionals. Always fondest of the unorthodox, the Prime Minister had to be persuaded, cajoled and sometimes bullied into accepting professional advice. Later on in the war the incomparable Sir Alan Brooke successfully held the tiger by the tail; at this time Dill and Pound were being worn down in the attempt.

On December 7, 1940, just as Wavell's North African Offensive began, Churchill sat down to write to Roosevelt urging him to supply much more than the limited volume of munitions Britain could pay for in hard cash. Just as, in July, Roosevelt had sent colonel "Wild Bill" Donovan to weigh Britain's chances before parting with fifty somewhat decrepit but very necessary destroyers, so now he sent his personal representative Harry Hopkins, not quite as Gilbert suggests to avert "the danger of economic conflict" and to put lines of communication between president and premier "on a sounder and more personal basis", but rather to assess whether Britain was worth the risk of further investment. Once he had arrived, Hopkins was wooed assiduously and successfully by the Prime Minister; as one member of Roosevelt's cabinet remarked at the time, if the President had sent over someone afflicted with bubonic plague "Churchill would, nevertheless, see a great deal of him". The result was Lend Lease.

The first six months of 1941 brought the debacle of Greece and Crete – another instance of Churchill overruling the military – and mounting indications from the ENIGMA decrypts that Hitler intended to attack Russia. When the attack came on June 22 Churchill rushed to the microphone to offer Russia partnership and aid – an act readily explicable given the circumstances of the moment, but one with consequences which Churchill seems not to have thought through very far. For one thing, the aid he so generously offered was not provided by America on top of what she was already supplying; instead a large part of it was carved out of the existing British allocation. For another Beaverbrook, sent to Russia by Churchill with "a considerable measure of discretion", gave everything away without bargaining over strategic policies or political objectives, or even pressing the Russians for production information. Churchill could be accused of failing to profit from a buyer's market.

During a visit to Dover in the company of the Prime Minister Hopkins had been much struck on hearing a workman remark as Churchill passed by, "There goes the bloody British Empire". Whatever else Roosevelt was prepared to fight for, he was certainly not prepared to fight to preserve that empire. Churchill was, and this profound difference of outlook underlay much of what happened at the first wartime meeting between the two men, which took place at Argentia Bay in Newfoundland on August 9, 1941. Out of this meeting came the Atlantic Charter, which became the foundation of the United Nations, and from which flowed much confusion and dispute. Article III pledged both powers to "respect the right of all peoples to choose the form of government under which they will live; and . . . to see sovereign rights and self-government restored to those who have been forcibly deprived of them". In pointing out that, only eight days later, Churchill was expressing considerable reservations about whether this clause applied to the British Empire, Gilbert does not entirely convey the extent of the Prime Minister's manoeuving: it was he who added the phrase "sovereign rights" to the clause. More surprisingly, there is no reference at all to Article IV, in which Roosevelt sought to ensure that the closed economic systems of the 1930s did not re-emerge after the war by pledging the powers to work for free economic exchange. Churchill's addition of the phrase "with due regard for our present obligations", which was designed to preserve the Ottawa agreements, cut right across Roosevelt's intentions. Others have detected the hand of Churchill the Imperialist at work here.

Hitler's attack on Russia made it less and not more likely that America would intervene directly in the war, for with a major land power now actively engaged in the struggle with Hitler Britain's position looked less insecure. It was the Japanese attack at Pearl Harbour on December 7, 1941 which brought America into the war – an event which comes as almost as much of a surprise to the reader as it did to the victims, since Gilbert makes only the briefest reference to Far Eastern strategy and politics before that date. Perhaps this material will form the preamble to the next volume. In the meantime the reader is left in ignorance of Churchill's continued refusal to heed the advice of the Chiefs of Staff and reinforce the Far Eastern garrison in 1941, of his statement four days before Pearl Harbour that the possibility of Japan commencing hostilities was "a remote contingency", and of much else besides.

Churchill became that rare phenomenon, an emblematic Prime Minister. He personified the British bulldog, alone but defiant in 1940, and he still does. The bulldog is a little overweight – perhaps the consequence of its rich diet of Bovril (the first syllable pronounced to rhyme with Hove) and sardines, champagne and oysters, brandy, whiskies-and-soda and outsize cigars – but its stance is determined. The hat is jammed firmly on the head, the cigar clamped between the teeth, while the right hand makes a deliciously ambiguous gesture, at once defiant and sexually insulting. The fact that there seems something slightly absurd about this small, roly-poly figure commanding armies and navies, sacking and promoting generals, dealing out defeat and destruction to the elegant and austere professionals of Hitler's staff only increases the power of the image.

The great merit of Martin Gilbert's account of the first two years of Churchill's war is that it allows us to appreciate the reality behind that image. As the war unfolds day by day, we are able to feel the pressures and strains of coping with frequent set-backs and more occasional successes. If Churchill lived from hand to mouth then we need not wonder at it, for the press of events would have overwhelmed a lesser man. As well as observing the Prime Minister's official face, portrayed by means of a vast array of cabinet minutes, state papers and minutes, we are also given access to the private figure through the invaluable diary of Sir John Colville. Churchill's personal assistant until September 1941. Wayward, impulsive, petulent and sometimes childish in his behaviour, Churchill is shown also to possess gifts of firmness of purpose, determination and seemingly inexhaustible energy with which to counterbalance what would have been failings in other men but seem actually to have been advantages in helping him undertake his task of beating Hitler. The final impression is of a man revelling in the opportunity to lead and to command. All in all, he did the job rather well.

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Churchill watches the arrival of one of the first Boeing B-17 "Flying fortresses" from the United States on June 6, 1941.

BOOKS

Living together

Cohabitation Without Marriage: an essay in law and social policy
by Michael D.A. Freeman and Christina M. Lyon
Gower, £15.00
ISBN 0 566 00455 0

Marriage remains the preference of the great majority of couples: as Michael Freeman and Christina Lyon point out, cohabiting couples do not account for more than one-eighth of the couples who live together in any country in the western world. Yet everywhere cohabitation is on the increase, sometimes as a form of trial marriage, sometimes instead of marriage, and the trend seems bound to continue.

The reasons are fairly clear: both religion and conventional morality have weakened their hold; marriage is often associated in younger people's minds with traditional patterns and sexual roles which they reject; the increase in divorce and consequent instability give marriage less point, and in any case a growing proportion want the freedom to enter and leave relationships when they wish.

The authors are academic lawyers and their subtitle, "an essay in law and social policy", indicates their approach, though it should be added that law overshadows social policy in the discussion. Their book is largely an examination of the ways in which the law is responding to the growth of cohabitation. They give particular attention to England, but also review developments in other countries, including Australia, the United States, Sweden, France and Yugoslavia.

Their main finding is that virtually everywhere the law is disposed to treat cohabitation as if it were like marriage. For the most part judges, legislators and bureaucrats inevitably see marriage in traditional terms, based in particular on the economic dependence of wife or mother on husband or father. Largely out of a desire to protect what are seen as the interests of dependent women and, even more important, their children the law, along with such social policy instruments as social security schemes, has sought to approximate the rights and responsibilities of cohabiting partners to those of married couples.

Freeman and Lyon, taking a feminist and libertarian stance, view this development "with some alarm", arguing that it makes it increasingly difficult for people "to escape from marriage by cohabiting". As they see it, one of the problems is that, for reasons of bureaucratic tidiness and to avoid the state taking on the financial liability for all children, the convenient assumption has been made that mothers provide the main care for the children and therefore, if left alone, need the support of their ex-partner or his estate. But, if the cohabiting couple had rejected marriage and chosen instead a less conventional arrangement with a different distribution of sexual roles and responsibilities, may the law not be forcing them into what the authors call "the limited, sexist-based model of traditional marriage"?

There is obviously some force in this, though solutions are not readily available. Freeman and Lyon do not really face the cohabitation dilemma over social security benefits: how to avoid treating a cohabiting couple as if they were married without either making married couples worse off than cohabiting ones or accepting a large increase in public spending? They do, however, acknowledge the problem of dependency when they say that, though they would like to see an end to the maintenance of ex-wives and their cohabiting sisters, they appreciate that the duty to maintain results from the "economic realities". They go on to say that "Until women have equality in the economy there may be no alternative to accepting that on breaking up the family unit the economic provider continues to provide". Quite so. But this is part of the argument for a policy of protection and support, particularly for dependent children, which underlies the legal treatment of cohabitation as something very like marriage.

Nevertheless, they have a case, and one that deserves serious attention. If cohabiting partners had wanted to marry they would presumably have done so. Their freedom to choose a different kind of relationship clearly is thwarted, as this book argues, if the law insists on treating them as if they were married.

The way forward, the authors argue, is through contracts setting out the agreed rights and duties of partners. There are at least two problems about this, as they themselves recognize. The first is that it is too much to expect all, even most, couples to go to the trouble, which is a good deal greater than that of a visit to the Register Office. The second in that, as shown by the experience even of Sweden (where the contractual alternative has been taken further than elsewhere), it is difficult to provide in advance for every unforeseen dispute. Despite the difficulties Freeman and Lyon are, however, probably right in seeing this as the most hopeful course. Workable alternatives to marriage are more likely to be developed if at least some couples try to be explicit about what they expect from the partnership, and the contracts of those who do use them can subsequently provide a useful basis for other couples.

This book combines academic seriousness (in the best sense) with its polemical line. Not every reader will agree with the conclusions, and some will find the legal language heavy going in parts. But it is a useful contribution on a subject that is certain to grow in importance.

Peter Willmott

Peter Willmott's most recent book is "Inner City Poverty in Paris and London", with Charles Madge.

Old age creeping up

Beyond Sixty-Five: the dilemma of old age in America's past
by Carole Haber
Cambridge University Press, £17.50
ISBN 0 521 25096 X

Aging in Early Industrial Society: work, family and social policy in nineteenth-century England
by Jill Quadagno
Academic Press, £16.20
ISBN 0 12 569450 4

As advanced industrial economies move sluggishly through the last two decades of the twentieth century the problem of supporting the elderly is becoming acute. On the one hand, mass unemployment increases pressure for early retirement, old age pensions have become an emotive political issue and areas such as geriatric medicine and sheltered housing are seen as relatively underfunded. Yet on the other hand, against a background of fiscal crisis in welfare, where public expenditure cuts are seen as therapeutically virtuous, the cost of supporting aging populations may well prove to be prohibitive. This dilemma has encouraged social historians to look back at previous societal perceptions of aging. Was there ever a time when the elderly were venerated? Was there ever "a golden age of senescence"?

Both these interesting and well-written books answer that question with a cautious no, but emphasize that in America and Britain respectively the status of the elderly probably declined over the course of the nineteenth century. Carole Haber's concise and tightly argued study begins with a description of old age in colonial America, then examines nineteenth-century perceptions of aging through the eyes of social workers and the medical profession (who, not surprisingly, tried repeatedly but unsuccessfully to categorize old age as a fixed medical phenomenon). She describes the growth of charitable institutions for the elderly and – in probably the best chapter – shows how occupational retirement pension schemes developed for a variety of reasons, including anti-trade union employer paternalism. By the end of the nineteenth century, she concludes, a combination of forces was producing a conceptualization of old age that was differentiating the elderly more sharply from the rest of society; the status transition to retirement had become more abrupt.

Dr Haber has consulted an impressive range of sources (and she includes a valuable bibliographical guide), but sometimes her reliance on non-quantitative evidence results in rather ambiguous verdicts, as when she concludes that in eighteenth-century America "attitudes toward old age were hardly uniform or unvaried". Again, in tracing the evolution of perceptions of aging she tends at times to divorce ideology from its economic and political background: while she skilfully demonstrates how, at a time of technological change in the economy, the concept of mandatory retirement (enforced through company pension schemes) benefited the interests of employers by forcing inefficient elderly workers out of the labour market, she is less clear on precisely why the newly-professionalized doctors, charity workers and social scientists of the nineteenth century adopted increasingly rigid definitions of old age. Nevertheless, Dr Haber has provided us with a stimulating investigation of the relationship between ideology and social relations.

Jill Quadagno's study is longer but rather less consistent in quality. She provides a useful critique of general modernization theories which attribute the elderly's apparent loss of social status to the industrialization process (in particular, loss of support through the extended family), and then illustrates this by exploring relevant historical themes. There is an excellent chapter on changes in household and family structure, where quantitative evidence from the village of Chilvers Coton, near Coventry, illuminates the argument without overwhelming the reader. But chapters on demographic change, the Poor Law, retirement and the campaign for old age pensions are rather less successful, principally because over-reliance on secondary sources produces an account that adds little to what we already know. While undergraduates will undoubtedly find it useful to have existing research re-presented between the covers of one book, professional historians may feel that Dr Quadagno is at her best when wrestling with sociological issues. For example, in her conclusion she makes the interesting suggestion that the elderly's loss of status over the nineteenth century may have been over-emphasized through becoming a political issue in the wider battle between capital and labour; the degradation of old age became so much a part of the political rhetoric of the time that a precise retrospective assessment of "status" is now very difficult.

Both authors discuss the important question of whether the elderly as a workforce were becoming less relevant to an increasingly technological mode of production in the late nineteenth century, and thus needed to be "shaken out" of the labour market. The link between technology and loss of social status is one that western societies will need to consider in the future. We thus see in both these books the current relevance of good social history.

John Macnicol

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Giving comfort

Life after a Death: a study of the elderly widowed
by Ann.Bowling and Ann Cartwright
Tavistock, £12.95
ISBN 0 422 78230 0

Death and bereavement are supposedly the taboo subjects of modern society. One would have difficulty believing this in view of the extensive and rapidly growing sociological and psychological research literature on the subject.

This book is an original contribution to that literature. Whereas previous researchers have concentrated upon the process of psychological adjustment, Ann Bowling and Ann Cartwright also concern themselves with mundane, practical aspects and consider not only the widowed themselves, but also those who help them adjust or fail to do so. Again, while previous studies have paid special attention to those such as the young widowed, children, and others who pose particularly interesting theoretical issues, these authors address themselves to those most likely to be widowed, the elderly.

Bowling and Cartwright are concerned mainly with the practical, policy-oriented implications of widowhood where, it is to be hoped, their findings will have some impact. They draw attention to the immense strains imposed upon those caring for the terminally ill, especially those who are themselves elderly and frail. (Some of the case histories used to illustrate these difficulties are harrowing indeed, and illustrate the lack of provision for those in this position.) They then consider the first few months of widowhood.

Particular attention is paid to the medical profession, especially general practitioners, who do not come out of the examination well. There is an evident gulf between them and their widowed patients at virtually every level. They have insufficient contact, and they lack adequate knowledge about such things as social conditions and even the drugs they prescribe. There are some frightful stories of neglect, lack of sympathy and sheer inhumanity on the part of a few GPs. Reason for hope lies in the fact that younger GPs are rather more helpful than their older colleagues, but reason for despair lies in the selective response rate which indicates that only the more conscientious GPs bothered to reply to the questionnaire.

On the other hand, those who come out well are the families of the widowed, especially their daughters, as well as friends and neighbours. Once again social research shows that it is too soon to toll the death-knell of the extended family or sense of community. It is family, friends and neighbours to whom the widowed turn for help and who – often at considerable cost to themselves – provide it.

While the focus of this research is unashamedly practical and policy-oriented, many findings will have theoretical significance, especially in disproving certain assumptions about widowhood. For example, it has been widely believed that anticipation of death during a long illness makes for easier adjustment after widowhood because of the opportunity to engage in preparatory grief; this is not supported in this study. Likewise, it has been found previously that those with a poor marital relationship have difficulty adjusting because of a heightened sense of guilt about their negative feelings for their spouse. Yet, the evidence here showed that those who fell into this category seemed to display signs of relief.

Elsewhere, there were findings which might have benefited from more sophisticated theoretical consideration. For example, while many widowed complained of not having enough with which to occupy themselves, they were also apathetic, and there was a lack of enthusiasm for joining clubs. Before trying to provide occupying activities or encouraging club membership, as the authors suggest, it might be instructive to consider Peter Marris's point that after bereavement activities and events change their meaning. The widow who no longer polishes the floor may well be asking the question, "What is it all for?" Until that question is answered, activity for its own sake will continue to have little meaning.

Medical sociology is one of the discipline's more acceptable faces. It deals with issues that everyone can recognize as problems and its empirical grounding has enabled it to contribute directly to public discussion. This book is a good example of this: one is inclined to show it to non-sociologists as proof that sociology can be informative and useful.

P. A. J. Waddington

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Young patients

Children in Clinics: a sociological analysis of medical work with children
by Alan G. Davis
Tavistock, £11.50
ISBN 0 422 77370 0

Over the last fifteen years medical sociology has become an established component in the sociology curriculum. At the forefront of this development the work of researchers at the Aberdeen Institute of Medical Sociology has done much to indicate the applicability of sociological concepts to the study of health and illness. Any study from Aberdeen is therefore to be greeted with high expectations. Unfortunately this report by Alan Davis of his research when employed at the Institute fails to meet such expectations.

Children in Clinics is not so much about children but more about doctors working in children's clinics – and what Davis says about the various medical settings in which paediatric services are provided in a "Scottish city" states little more than the obvious.

Davis uses an ethnographic approach in identifying different patterns of interaction and argues that the behaviour brought to the medical examination by a child can be inappropriate to the situation and that this can throw into sharp relief the hidden assumptions about what *is* appropriate behaviour in such a context. His central point is that, paradoxically, medical work with children is essentially work with parents, usually the mother. Children do not necessarily understand the role of potential "patient" nor appreciate what is meant by the "sick" role; they may not cooperate; they can be easily distracted; often they cannot provide medically appropriate information that will assist the doctor.

For all these reasons the parent is essential in conveying relevant information and in assisting the doctor in gaining the cooperation of the child. But the way in which the involvement of the parent is elicited depends upon the setting in which the examination is conducted. There are differences between the local authority children's clinic where parents are more likely to bring their child along for screening on their own initiative compared to the more overtly clinical setting of the hospital where children are more likely to be referred.

None of this is new or original – as Davis comments, the difficulties of working with children are well known. What he attempts to do is to place the analysis within the context of the insights provided by commentators such as Friedson. While this may be of interest to professional sociologists it is doubtful whether other groups will find the analysis of any particular relevance or use.

Curiously, children figure very little in the discussion. The child's perception of the assessment and the impact that has on their understanding of "being ill" or "being well" is totally ignored. Attempting to gauge this would have proved difficult – but no more difficult than the problems faced by the paediatricians in eliciting the cooperation of the children. There is a dearth of material on how attitudes to health and illness are socially constructed in the perception of young children. Davis had the opportunity to attempt to remedy this in a specific context but failed to develop any appropriate methodological procedure. Similarly, the views of the parents are not conveyed. In an appendix Davis comments that it was originally intended to interview parents but this did not prove possible. The omission of their views from the analysis is as grave a problem as the exclusion of the views of the children.

The result is that the book is concerned with a medical setting involving doctors, parents and children in which the views of only one group of participants – the doctors – are conveyed. The text is full of vignettes and anecdotes about incidents that will be familiar to many parents. But while these give a certain "feel" of credibility to the descriptive account, the analysis is too narrow to state more than the obvious.

John Brown

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BOOKS

Racine pioneer

Essays on Seventeenth-Century French Literature
by Leo Spitzer
translated and edited by David Bellos
Cambridge University Press, £27.50
ISBN 0 521 24356 4



Jean Racine

In this pleasing volume, Professor Bellos has gathered together six essays on seventeenth-century French literature by the Austrian scholar, Leo Spitzer (1887–1960), edited and annotated them, translated five of them into English (only one was originally written in English), translated the quotations, and added a good introduction.

The introduction outlines Spitzer's life and characterizes his criticism – his preoccupation with differences, with what makes a work unique; his combination of erudition with insight, of history of the language with literature; his conviction that students of modern languages ought to be intermediaries; his belief that a great masterpiece is perfect in all its parts – a rather questionable view, which as Professor Bellos points out, takes for granted what criticism ought to prove, and which precludes value judgments.

The best essays in this volume are those on Racine. If a benevolent despot were to ordain that the bulk of the existing body of criticism of Racine should be destroyed, Spitzer's essay on *klassische Dämpfung* (translated by Bellos as "classical 'piano'") in his study, together with the complementary analysis of the *récit de Théramène* in *Phèdre*, would be two things for which I should put in a plea. The essay on *klassische Dämpfung*, which occupies over a third of the volume, is one of the few works that can legitimately be described as "seminal". An illuminating and suggestive analysis of the abstract, intellectual, stylized elements in Racine's verse, it foreshadowed further study of his vocabulary and style, and of such aspects of them as his symbolism and use of key words, his use of periphrasis and direct statement, and the power of eyes and the importance of vision in his work. Both Spitzer's essays and later work along these lines have enhanced – as criticism should – our appreciation of Racine. Spitzer's contention that Racine's work – and, indeed, French classicism in general – contained much that was baroque, then paradoxical and heterodox, is now pretty generally accepted.

The essay on the *Lettres portugaises* runs those on Racine close, though its subject is at most a minor masterpiece. In it, by a careful analysis of the structure of the work, its sources, its style, and its improbabilities, Spitzer establishes that these are not the genuine effusions of a real Portuguese nun, but the creation of a Frenchman, Guilleragues. The essay on *Polyeucte* uses the medieval *Vie de Saint Alexis* to demonstrate that Corneille's hero is in the Christian tradition of saintliness, a point that needed to be made; and that on the art of transition in La Fontaine is a valuable study of the conscious artistry of the *Fables*. The essay on Saint-Simon's lengthy obituary account of Louis XIV is, to my mind, less rewarding than the others.

Professor Bellos overstates his case when he claims that Saint-Simon, La Fontaine, and especially Guilleragues "owe their present place in the literary canon in large part to Spitzer's insights". Guilleragues, perhaps; the other two, surely not – indeed, Spitzer's article on Saint-Simon, Bellos tells us, attracted little attention until 1979. But Spitzer's articles have retained their interest and their value. If one disagrees about details, one is struck by his essential rightness. Above all, perhaps, one is impressed by the example he set of scholarship. He combined wide reading and knowledge – and the essays in this volume form only an infinitesimal part of his work – with patient, close, and fruitful study of the text. He had insight and independence: the essay on Racine's *klassische Dämpfung* was drafted without reference to any critical studies except Vossler's book, and for his essay on Saint-Simon he read none at all.

I have only two minor reservations about this volume. The incorporation of original footnotes into the text within square brackets is disturbing; and though on the whole the translation reads well, occasional infelicities, colloquialisms, or neologisms jar (can "given" really be used as a noun or "foreground" as a verb, for instance?) Reading Spitzer may be neither easy nor altogether pleasurable – this great student of style is no stylist – but it is a humbling and a salutary experience.

P. J. Yarrow

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Old verses?

Paul Valéry's *Album de vers anciens*: a past transfigured
by Suzanne Nash
Princeton University Press, £21.20
ISBN 0 691 06526 8

I confess to having turned to this book with some reluctance. There is always the risk that "old verses" are overshadowed in our minds by a poet's mature verse. Yet these are not really Valéry's early works at all. Published as late as 1920, they are poems in which, begun in 1912, the process of revising the verses he had written in his twenties, two decades earlier, came to play an essential, transformative part. A few pages of this powerful study are sufficient to reassure us of the immense literary and critical interest offered by a uniquely self-questioning form of art.

If return to an earlier stage of development occurs in all genuine reflection, as Professor Nash suggests, then Valéry certainly made the most of the "play of identification and difference, affirmation and negation" made possible by his particular dialogue with the past. As he leaned towards his early verse, the face he found reflected in the pool was one which painfully resembled that of Baudelaire, Verlaine, Heredia, Mallarmé: a whole ancestral past seeming to determine his own voice. For Valéry, however – and this is the main critical insight developed in this study – the discovery led to an understanding of the problematic nature of language itself, and from there to one of the most important structuring principles of all his poetic works. Where the poems of the Parnasse and of minor French Symbolists show little or no critical insight into the ambiguities of their own structures, the type of discourse he came to pursue is a form of imaginative investigation, one where critical questioning is embedded in the work.

Yet what of the poems themselves, each one separately considered in the second part of the book? The centre of the collection is occupied, we are told, by the figure of Narcissus (*Narcisse parle*), model of the voice seeking an impossible union with its bodily image and "figure for the arbitrary structure of figurative language itself", while on either side are poems which question their own stability from within or constitute a growing critique of the opening works. Analysis of the first of these, *La Fileuse*, is accordingly accompanied by the earlier version (1891) from which it slowly freed itself and by detailed reference to the voices of Heredia and, in this case, Régnier (quoted at length in the Appendix). The magic garden is transformed from within.

It would be tempting to argue that such an approach detracts from the "quiddity" of the poems, allowing them no more than a transitional, albeit innovatory role, and confining them to allegories of Valéry's encounter with poetic processes and forms. Yet, the striking quality of the analysis of individual poems apart, charges of this kind are largely invalidated by the notion of self-reflection itself, a kind of meta-language ("I can because I see I can't") transcending the doomed effort of thought to equate with words, and making its presence felt as the very heart of the work. Nor – for all Valéry's insistence on the "endlessly unfinished text" – is such a thesis allowed to lead to a no-man's land of free interpretation. By accepting the autonomy of language as inevitable while making use of the laws of language (above all the "Babel" of metaphor) to keep alive the unifying action of the critical consciousness, the Valéryan poem might be said to be controlling its own "deconstruction" from within.

No such explicit stand is adopted by Professor Nash on this point, but it is perhaps no accident that the contemporary literary theorist whom she quotes on the subject of communication is Paul de Man, whom some would consider interesting precisely because he makes what hard-line theorists would consider a compromise in "deconstructionist" terms. Here Valéry has much to say to us all.

But the uses and abuses of theory apart, this is a book which, while not afraid to make strong critical statements, never betrays so much interest in its own method as to detract from the task of appreciating the poems anew. Above all it confirms that, transcendental or not, conscious reflexivity can survive as a rich and expressive mode of creation if it is accompanied by commitment to language itself. The constraints of words are precious and necessary if, however, "green and dying" we are truly to "sing in our chains like the sea". Defensive rationalization or not – and are the steps we take to defend ourselves necessarily rationalizations? – this as much as anything is the source of Valéry's remarkable "second Spring".

Christine M. Crow

Dr Crow is reader in French at the University of St Andrews.

Political poet

Alphonse de Lamartine: a political biography
by William Fortescue
Croom Helm, £16.95
ISBN 0 7099 1027 4

During Lamartine's period of office as Minister of Foreign Affairs in 1848, he was viewed by the British Government with wary respect. In his sixty-eighth year, when he was overwhelmed by debts and when a national subscription was launched in France, a London committee was formed, which generously sought aid for him.

This varied attitude is typical of the British perspective on Lamartine. Later, mainly through the influence of the French curriculum in British schools, he was scanned through a haze of literary commentary as the French Lake poet, declaiming resonant platitudes on love, separation and mortality, which achieved for him turn by turn sentimental admiration and suspicious disregard.

In recent years, the increased accessibility of his poetry through detailed and reliable editions, such as the Pléiade *Oeuvres poétiques complètes*, presented by M. F. Guyard, and F. Letessier's critical edition of the *Méditations poétiques* for Garnier, has permitted a more balanced view to the admittedly small number of interested readers on this side of the Channel. The bulk of his voluminous writings, which is in prose and mainly autobiographical or historical, illustrating his ideas and presenting touched-up versions of episodes of his life, remains very little known, as do the details of his diplomatic and political career.

This last point is underlined by William Fortescue in the preface to his book, where he draws attention to the lack of "satisfactory works of synthesis" on Lamartine and to the two-volume work by H. R. Whitehouse as the only substantial biography in English, but now sixty-five years old and clearly overdue for retirement. Fortescue's book does not aim at a synthesis, but is designed, as the author says, "to fill a gap". This it does without question, and it is a welcome addition to the works which are slowly building a firmer and fuller basis on which to judge Lamartine.

The word "biography" in the title is perhaps not fully justified, implying as it does the full evocation of a personality. The portrait of Lamartine which emerges from the analysis, which is almost exclusively political and historical, is a relatively crude likeness. But the author's aim is preeminently the noting of detailed facts, the sources and verification of facts, tersely ordered in the text and elaborated with a wealth of detail in footnotes which expertly guide the reader through the mass of information and judgments accumulated round Lamartine's life, career and writings.

The life and career are traced through his years in the diplomatic corps of Louis XVIII and Charles X, and through his period as a *député*, which lasted eighteen years, with its extraordinary combination of careerism, independence, vision and miscalculation, which led him to virtual leadership of the Provisional Government for a few months in 1848, and to a spectacular fall from power after the presidential elections of the same year had brought in Louis-Napoleon.

The writings are used for the light they throw on the political life, some, like the *Histoire de la Turquie* (1854–55) and the *Histoire de la Russie*, being set aside as of no "significant political interest". The poems also are used as supporting documents, the content of the political pieces being noted in a laconic paraphrase, as is the argument of articles and pamphlets such as *Sur la Politique rationnelle*. Towards many of Lamartine's actions and probable motives, Fortescue adopts an attitude of measured suspicion. While conceding that Lamartine had "high ideals", generosity and strong verbal and imaginative gifts, he sees personal vanity as the fatal flaw running through the character, clouding Lamartine's political judgment, and inducing idiosyncratic behaviour and inconsistencies of policy and decision.

In a book which risks becoming tedious through lack of style, the last pages of the chapter "Bonapartism and Bankruptcy" are the most eloquent, something of the courage and tragedy of Lamartine's last years permeating the clipped sentences. But the astringent analysis performs a useful function at times, particularly so in the first chapter, dealing with the pre-diplomatic years, where the sentimentalized image of *l'amant d'Elvire*, which has clung so tenaciously, is corrected by the facts of Lamartine's promiscuous sexual life, from his last year at school (1807–08) to his marriage in 1820.

This method of presentation, which no doubt preserves some of the aspects of the thesis which the author presented on Lamartine ten years ago, does not give the reader an easy ride; but the effort is well worth while, for there is no better guide to Lamartine's political life, and this is likely to be a standard work for a long time.

J. C. Ireson

J. C. Ireson is emeritus professor of modern French literature of the University of Hull.

Terence Kilmartin's acclaimed translation of *Remembrance of Things Past* by Marcel Proust is now available in paperback. It is published by Penguin Books in three volumes each costing £5.95.

Wiley JOURNALS

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BOOKS

Trying to keep the peace

The United Nations and the Control of International Violence: a legal and political analysis
by John F. Murphy
Manchester University Press, £22.50
ISBN 0 86598 079 9

The United Nations is not a name to rouse much hope in the minds of those worried about the state of world affairs, at least in the West. Even more strife seems to be stirred up at its meetings than in the world outside, and, as for the superpowers, for whom the threat to all life chiefly comes, they evidently could not care less what happens at the UN. Taking into account the endless violence in the world today – in the Middle East, South East Asia, Latin America – to talk about the United Nations actually controlling it seems at best a feeble joke. Or an old dream dissipated by reality.

John F. Murphy, a professor of law at Kansas University, is only too well aware of the United Nations' shortcomings, but is not discouraged. He still has enough faith in the organization's relevance to the age-old struggle against violence to make thoughtful recommendations at the end of each of his chapters for making it more effective. In surveying in detail the UN's record in dealing with wars, international and civil, terrorism, revolutionary violence and the whole sad tale of bloodshed, he writes like a nearly but not quite exasperated schoolmaster compiling an end-of-term report. The Security Council "performed admirably" in the Cyprus question, "failed dismally to meet the challenge" in the war between Iraq and Iran, "functioned about as well as one could reasonably expect" in the Falkland Islands crisis last year. As though the council were a person who had his on and off days, instead of an orchestra of nationalistic instrumentalists, each of whom may be performing admirably most of the time, but none of whom plays from the same score.

Still, Murphy's heart is in the right place: he thinks that, with encouragement, the boy can do better. His book wisely distinguishes between the "traditional" violence of international relations – or the use of force to settle differences *between* states – and violence *within* states, especially in the Third World, with one faction or another, or both, fed with support from outside. Hard as the UN's task has been in the field of traditional violence, in that of revolutionary violence it has been incomparably harder. After all, the UN Charter was expressly designed for coping with the former, whereas guidelines for dealing with the latter have had to be worked out in the course of practice. Besides, clashes between moral principles have been unusually acute in the second case. Professor Murphy does well to emphasize the charter assumption that all use of force (except in self-defence or with the Security Council's authorization) is wrong, whereas support for revolutionary force – to end apartheid in South Africa, for instance – would be applauded by most UN General Assembly delegates.

In neither field does Murphy think that peace can be maintained by waving the magic wand of reform of the charter, or new rules of conduct, or other institutional devices. About the only institutional change he does propose (one canvassed in a recent lecture at the LSE by Sir Anthony Parsons, the chief British delegate at the UN during the Falklands crisis) is to increase the resources available to the Secretary-General to discharge his authority under Article 99 of the charter to bring to the Security Council's attention any matter that in his opinion may threaten the maintenance of international peace and security. This could be done, he suggests, by creating early-warning arrangements in trouble-spots around the world, so that UN headquarters could know in advance where conflict was brewing.

As the Falklands case shows, even this suggestion is problematic, apart from the cost. Britain, in its present government's mood, seems unlikely to allow a UN presence on the islands, nor (as Sir Anthony proposes) is Argentina likely to receive one in Buenos Aires.

As Professor Murphy points out, hopes of any radical new developments in UN peacekeeping were laid to rest in the early 1960s, with the crushing of the secessionist movement in Katanga. Not only did the Congo enterprise bring the organization to the brink of financial ruin. It demonstrated that the conflict between the principle of the territorial integrity of member-states and the demand for independence of minorities within them can put the UN out of action. Its failure in the Biafran crisis illustrated the same point.

What, then, can the United Nations usefully do? Professor Murphy is on the side of caution. "It should be utilized", he writes, "as a forum in which the full pressure of publicity and public opinion is brought to bear to stop the fighting". One notes the brave word "full". But also as a meeting-place for quiet arrangements to be made between world leaders and their agents (one recalls the ending of the Berlin blockade in 1949). And, it might be added, for states to justify the violence they resort to and to face criticism for the force they use, not a minor departure from the time-honoured usages of power politics. But terrorism, assassination, the pitiless brands of revolutionary force – these are treacherous waters for the UN ship to sail, simply because one man's killer is another's liberator.

The cruel fact is that the renunciation of violence is, to some extent at least, the renunciation of justice, too.

F. S. Northedge

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Types of law-making

Max Weber
by Anthony T. Kronman
Edward Arnold, £9.95
ISBN 0 7131 6361 5


Max Weber

Max Weber's influence in legal education both in Britain and America has been growing in the last ten years or so. This short book usefully outlines and discusses Weber's views on the law.

Anthony Kronman is a professor of law at Yale, yet his interest in Weber is primarily of a philosophical nature. He aims to clarify the neglected philosophical dimensions of Weber's writings and to show that even where Weber did not directly confront complex philosophical issues he nevertheless offered profound insights and succeeded in maintaining a coherent and consistent philosopical position in all his writings – one that requires to be understood by any student of Weber. In essence Kronman sees the positivist theory of value and the will-centred conception of personhood as the vital elements that underpin Weber's extensive writings.

Professor Kronman begins his discussion by outlining the methodological foundations of Weber's work and then, in three chapters, he outlines types of authority, the different types of law and law-making, and changing forms of contractual association. The presentation is detailed and knowledgeable. Everyone who has tried to come to terms with Weber's views on law, legitimacy and authority will admire Kronman's discussion even though they may not accept all his interpretations. Most people seem to agree that Weber refers to "rationality" and to "formality" in different and ambivalent ways, in ways which can subvert some of the ambitious arguments he adduces in discussing the "rationalization" of the modern world. Yet whether or not Kronman's interpretation elucidates Weber's confusion will be debated.

Much has been written about Weber's attempts to explain the relationship between law and economy, and Kronman's chapter on law and capitalism is disappointing: his discussion of causality and law and economics fails to understand Weber's appreciation of the importance of Marx's arguments. Kronman then takes us into interesting if slightly disjointed discussions of Weber's analyses of religion in general, and his anxious appreciations of modern life and the unknowable implications of progressive developments. It is a pity that here David Little's useful work, *Religion, Order and Law* (1972) wasn't commented on.

The chief value of this book lies in the strenuous and careful attempts Kronmnn has made to dissect accurately some of Weber's works, to provide textual exegesis and to trace back discussions of selected subjects to the underpinning philosophical positions. Its demerit is its lack of sociological "vision" – its failure to convey the ambitions, breadth and excitement of Weber's analyses.

While Kronman does not quite justify the claim by Jaspers that Weber is the "true philosopher of our age" he does help us to revise our attitudes to the philosophical issues that so perplexed Weber himself.

C. M. Campbell

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A plea of insanity

Madness and the Criminal Law
by Norval Morris
University of Chicago Press, £16.00
ISBN 0 226 53907 5

The relationship of criminal behaviour to abnormal states of mind continues to be a source of intellectual fascination for (among others) criminologists, psychiatrists, moral philosophers, sociologists, and legal scholars. One of the foundations of Anglo-American law is *mens rea* or guilty intent, but should that *mens* not have been functioning normally, can guilt then be justly attributed?

Norval Morris, who is professor of law and criminology at Chicago, believes that when a given mental condition is required for an offence to have been committed, then in its absence there can be no conviction. Obvious enough, perhaps, but the next stage of his argument is that any disability which affects this intent should be given equal weight, and this has not been the practice up to now. "Why", Morris asks, "should a special rule be made for the mentally ill if it is not available to other innocents?" – not only the blind, deaf, epileptic, or mentally retarded, but even more those who have been socially deprived, since social adversity is far more potent in its pressure towards criminality (certainly towards all forms of violence and street crime) than any psychotic condition. "The special defence of insanity excludes other powerful pressures on human behaviour, thus giving excessive weight to the psychological over the social".

To urge, as Morris does, that the special plea of insanity should be abolished may seem harsh and reactionary, but in his view, injustice and inefficiency always result from confusing the mental-health power of the state with its criminal-law power. In any case, since such defences are only invoked on rare and sensational occasions, much of the endless argument about them relates more to a myth than to reality. Therefore, Morris would prefer to shift the discussion from fitness to stand trial or the relevance of the insanity defence to questions of sentencing.

In this way, all whose criminal intent is less than normal may be treated fairly, and while evidence of mental illness should be admissable to show that the accused lacked the prohibited *mens rea*, so should evidence of other handicaps which might have a similar effect. Although it is constantly reaffirmed that the denial of responsibility on grounds of mental illness must be maintained to preserve the moral infrastructure of the criminal law, "it is very much better to create a system which allows room for mercy and parsimony of punishment in the individual case".

Separating moral from criminal guilt would invalidate the reasoning which gave rise, for instance, to the McNaghten Rules, and Morris believes that medicine should never have been asked by judges to define the dividing line between guilt and innocence – "questions such as 'Did he know the act was wrong?' are philosophically in error", confusing the evidence for a proposition with the proposition itself.

In fact, since no criminal act is either wholly rational or altogether pathologically determined, the moral issue sinks into the sands of real life; but will lawyers ever accept that this is so? Justice and humanity can only be maintained by giving the offender what he deserves as an individual (within a hierarchy of ranges of punishment), rather than merely the tariff for the crime, so that the issue then returns once more to sentencing, and to Morris's view that treating all like cases alike is by no means a categorical imperative.

This is a very unusual book indeed on the criminal law because two of its chapters are in the form of "lost" stories, written in Burma by George Orwell. These are dramatic illustrations in one case of the gulf between two forms of guilt (moral and criminal), and in the other of the problem of how to judge the results of involuntary conduct, such as fugue states. It is an ingenious device, which captures well the feeling of such Orwell stories as "An execution", but falls down regrettably with its vocabulary: no Englishman of the 1920s would have written "testify", "short pants", "retarded", "talked with", and so on.

Apart from such infelicities, and occasional bits of legal jargon, this is a stimulating and provocative, yet humanely determined, series of arguments, concerned to rule out possibilities that the mentally ill criminal may get the worst of both worlds. Although practice on both sides of the Atlantic ought to be re-examined from this point of view, we may feel some modest satisfaction here that Professor Morris regards the Butler Report's recommendations as allowing more sophisticated powers of sentencing than any American legislation.

Hugh Freeman

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The force of numbers

Law and the Economy
by Roger Bowles
Martin Robertson, £16.50 and £6.95
ISBN 0 85520 465 6 and 474 5

There are a great many English legal scholars who are good at playing with rules and analysing cases and statutes with the traditional legal methodological toolkit. There are still comparatively few, however, who are capable of making a completely informed use of the social sciences in their analysis of English law and institutions. As with sociology, so with economics: only recently has our legal literature begun to reflect a real, and certainly growing, interest in the application of the economist's methodology and core ideas to the study of law.

Roger Bowles's book is part of the effort now being made by a number of writers to explain how modern economics can be used to illuminate legal problems. He makes his attempt at a deliberately basic level, hoping to show that the theory of choice and the central ideas of economic analysis can be applied in a "fairly straightforward" way to legal issues. Mindful that the reader knowledgable in one discipline is likely to regard the other as "technical" or difficult, he works from the premise that the reader knows little about either subject.

His first four chapters provide an elementary introduction to economic analysis, to the economist's concepts of price and cost, and to methods of valuation. These matters are explained just so far as is necessary to make comprehensible to the non-economist the succeeding discussions of the economics of crime and punishment, and selected topics in tort, contract, litigation, legal services and the administration of justice, as well as the economic perspective on the concept of regulation. The author makes no claim to have written a comprehensive text; rather he has tried to draw together scattered scholarship and introduce it so as to whet the appetite for further reading, notes on which are most usefully appended to each chapter.

I suspect the typical legal reader may close the book without having all doubts about the extent of the utility of economic analysis of law dispelled. Although Bowles is admirably at pains to insert some appropriate caveats and qualifications and not to exaggerate the power of economic analysis, I think he could have confronted the lawyers' likely prejudices more boldly. The economists' methodology, with its unattractive picture of "economic man" is one that lawyers find hard to accept, thinking the models often so simplistic as to be dangerous when employed as tools of prediction and bases for policymaking, and unrealistically reliant on the accurate measurement of the essentially immeasurable. They object also to the isolation of the influence of variables which in the real world are inseparable in their impact.

Although the book is a fair success I suspect that better books (perhaps the second edition of this one) will soon displace it. I doubt whether those already well acquainted with law and economics will be detained by it: it is, in the author's own words, too low-brow and descriptive. As for the economist requiring an introduction to his discipline's contribution to legal thinking, I imagine he is more likely to start with the work of Posner or Hirsch, or the recently published volume edited by Burrows and Veljanovski, *The Economic Approach to Law*. However, for law students and lawyers who know all too little about economics I think this book will provide a most welcome introduction.

It is written in a very clear and easy style and it makes the bridges between the two disciplines which the law student's "introduction to economics" course all too often fails to make.

John Rear

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BOOKS

States of magic

Paracelsus: an introduction to philosophical medicine in the era of the Renaissance (second edition)
by Walter Pagel
Karger: Wiley £43.50
ISBN 3 8055 3518 X
From Paracelsus to Newton: magic and the making of modern science
by Charles Webster
Cambridge University Press, £12.50
ISBN 0 521 24919 8

The fascination of Paracelsus, says the late Walter Pagel, is the way in which he "produced scientific results from a non-scientific world of motives and thoughts." This second edition of his admirably thorough and lucid study, first published in 1958, reproduces the original text and adds a substantial section taking account of recent work in the field – much of it by the author himself.

Pagel begins with a survey of Paracelsus's wanderings round sixteenth-century Europe, a painful cycle of enthusiastic welcome followed by rapid cooling, confrontation with authority, and hasty flight. In religion he was equally at odds with his world, closer perhaps to the individualism of Schwenckfeld than to Catholic, Lutheran or Anabaptist.

His medical teaching too is impossible to categorize simply. Pagel gives full weight to the progressive elements in Paracelsus's work in the early development of chemistry and in the understanding and treatment of disease. His fierce assault on long-established humoral doctrine had important consequences, as did his insistence on the specific nature of disease and on equally specific (and especially chemical) therapy. At the same time Pagel states repeatedly that Paracelsus was not a scientist nor a systematic thinker, and that his writings were frequently both obscure and self-contradictory. The author is neither apologist nor debunker, aiming rather to place the man and his work in the broader context of his medical and general philosophy.

At the heart of the book is an account of the Paracelsian theory of man's nature, an elaborate structure of correspondencies between microcosm and macrocosm, and further chapters explore the complex theories of "elements" and chemical "principles". Finally, the author considers possible influences of Paracelsian thought, a daunting quest which reaches back *inter alia* to Gnosticism, the Neoplatonists and the ubiquitous Abbot Joachim.

Charles Webster also begins his study with Paracelsus, and like Pagel he explores the wider "intellectual world" of his subjects. The book derives from a series of lectures given at Cambridge in 1980 in which he drew on his own research and on a number of recent works which have come to undermine many traditional assumptions about the scientific revolution.

Although it is unusual for Paracelsus and Newton to be mentioned in the same breath, Webster sets out to show that there was a large measure of continuity between them and marked similarities between the world-views of their respective contemporaries. He points out that Paracelsus, besides making progressive contributions in a number of fields, had a sceptical attitude towards popular judicial astrology and had little interest in contemporary notions of a pact between the devil and witches. In Newton's case, by contrast, modern elements in his thought have tended until recently to obliterate the Neoplatonic world which his mind continued to inhabit. Webster emphasizes the importance of belief in the approaching Apocalypse and a new perfect age in a reconstituted world; Newton's immersion in scriptural prophecy is well known, and was common in his circle.

Spiritual magic, a significant theme in Paracelsian writings, was important to Bacon's disciples and helped to shape the outlook of the early Royal Society. The dream of unlocking the secrets of nature, and regaining the mastery possessed by Adam before the Fall, was explored fully by Webster himself some years ago in *The Great Instauration*. Newton's own fascination with alchemical literature is also familiar, and it has been suggested that he saw himself as a modern magus. Even in the case of demonic magic, Glanvill's influential defence of belief in witchcraft is a reminder that the Royal Society was not unambiguously on the side of "progress".

Webster is of course arguing a case, and Whiston, Glanvill (and Newton) figure more prominently than the rather more sceptical Hooke, Flamsteed or Halley. To take a minor example, the views of William Lilly – an aged, popular almanac-maker, born in 1602 – are cited in the text as evidence for the educated world-view around 1680, while Robert Hooke's total scepticism about astrology is consigned to a footnote. None the less, Webster's central case, for a remarkable degree of continuity, certainly carries conviction. (Does the tradition end with the Newtonians, or extend yet further?)

Webster accepts that change did take place, and that judicial astrology and witchcraft lost much of their standing in respectable opinion during this period. The magic and millenarianism of the Newtonians were very different in spirit from that current 50 years earlier. As the sense of personal and everyday immediacy faded, belief in magic or witches survived increasingly as part of a more general "conceptual infrastructure." While we must absorb Webster's findings on the importance of continuity, the extent and the causes of change in the status of magic still need to be explained. Future investigators will have to ponder the fact that the scientists seem merely to have been "dragged along with the tide".

Bernard Capp

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Vitalistic monism

Johann Baptista van Helmont: reformer of science and medicine
by Walter Pagel
Cambridge University Press, £20.00
ISBN 0 521 24807 8

Johann Baptista van Helmont (1599–1644) has outstanding claims to fame as a great pioneer of modern science and medicine. Even elementary texts mention the willow-tree experiment through which Helmont introduced quantitative reasoning in biological inquiry. He coined the word and concept of "gas" and has been called the "father of pneumatic chemistry". His researches into the acid digestion of the stomach and emphasis on the role of ferments have earned him a place among the founders of biochemistry. Histories of medicine honour him for his "ontological conception" of diseases, in place of the age-old belief in a single distemper caused by humoral imbalance. Add to this his death while under house-arrest on the orders of the Inquisition, and Helmont may seem like the very image of the heroic early-modern man of science, cast in the same mould as Galileo.

But secondary accounts which extol his achievements also usually caution against the stubborn "unmodern" elements he retained in his outlook. He accepted much from Paracelsus and apparently never shook off "the credulity and superstition" of his own time. The curious reader who turns to Helmont's own work will be repelled not only by a complex Latin style but even more by ways of thinking difficult to reconcile with his "modernist" reputation. It may seem natural, then, to regard Helmont as a transitional figure, trying to but never wholly advancing towards modern science, held in the grip of a "medieval" past. Our gallery of transitional figures, however, becomes ever more crowded as closer historical acquaintance compels us to consign more and more early-modern men of science to it. It now has to find room not only for Paracelsus, but for Kepler, Gilbert, Harvey, Helmont – even for the great Newton himself.

No one has warned more eloquently or argued more persuasively than Walter Pagel against the way we distort the past when we examine it simply for anticipations of what we now believe to be true and valid. Helmont was the subject of one of his earliest studies (1930), suggesting an alternative historical approach. Over half a century later he has returned to Helmont and brought a lifetime's scholarship to bear upon and deepen the insights of his earlier work.

Pagel's subtle and sensitive examination demonstrates that what we value in Helmont today springs from the same roots as that which we find disconcerting: his belief in a sympathetic cure of wounds, his claims to possess the philosopher's stone and a universal solvent, and his faith in mystical illumination and in Scripture as a guide to scientific truth. A vitalistic monism, transcending the separation of matter and spirit, and a related search for object-specific powers and forces in nature emerge as the mainsprings of Helmontian thought.

Helmont rejected ancient natural philosophy because he thought it relied excessively on logical procedures and on such general principles as elements and humours with associated qualities, and on the power of heat or of the stars, while being blind to the importance of the individual and the specific. The fact that each object, when its material husk was burnt away, yielded a particular "gas", was for Helmont an *in vitro* proof of that specificity. His conception of disease as caused by morbid seeds invading the health organisms and subverting the local *archei* from their appointed life-schedules and into following their own alien ones, have a modern ring, but are an application of that same outlook. Since the contest involved immaterial and rival "images" or ideas, therapy too, had to be chemical and specific, since it was directed towards the spiritual sustenance of the embattled *archei*.

Pagel also studies, in greater detail than ever before, Helmont's ideas of therapy, of fevers, pleurisy, and asthma ("a clinical masterpiece"), and of time. He compares Helmont's ideas with ancient, medieval and contemporary thought to determine his debts and assess his originality. Under his careful scrutiny "the progressive, scientific, and modern (in Helmont's thought) regains a complexity that is utterly different".

Leibniz, as has previously been noted, may have borrowed the term and concepts of monads (simple, percipient, autonomous beings, the constituent units of all things) from Helmont, and Pagel draws attention to a youthful physical hypothesis with Helmontian overtones which Leibniz sent to the Royal Society. Newton, too, it may be added, studied Helmont, and his notes are preserved among his manuscripts. Despite their differences, Newton and Leibniz were both well aware of the problems related to life and activity left unresolved by their mechanistic predecessors, and their common resort to Helmont is of great interest.

Pagel's profound study of the structure and detail of Helmont's thought is important and fundamental for understanding a seminal but bafflingly-complex figure in the history of early-modern science and medicine.

P. M. Rattansi

P. M. Rattansi is professor of the history and philosophy of science at University College London.


"Everything important, interesting or odd that has been written or painted, discovered or imagined, about the most extraordinary ancient building in the world", proclaims the front cover of *Stonehenge Complete* by Christopher Chippendale, published by Thames & Hudson at £12.50. James Barry's "King Lear mourning Cordelia", shown here, has Stonehenge as a background to the tradegy.

Society of volunteers

The Royal Society and Its Fellows, 1660–1700: the morphology of an early scientific institution
by Michael Hunter
British Society for the History of Science Monographs. Halfpenny Furze, Mill Lane, Chalfont St Giles, Bucks. NP8 4NR, £5.90
ISBN 0 906450 03 9

Reading this study of the first 550 fellows of the Royal Society, one quickly realizes that the history of scientific innovation and the history of the Royal Society and its membership, though related topics, are far from identical ones.

What was it to be an "active scientist" in late seventeenth-century terms? There is no simple answer. Few would deny that Isaac Newton had proved himself an "active scientist" before 1700, but as 290th fellow of the Royal Society he had so far been only "slightly active" and a correspondent. Being exempted from the society's dues, he did not even support it financially. By contrast, many fellows whose names are now unknown or even to expert historians were, at least for short periods, energetic in the society's affairs, regular attenders at meetings, and eager propagandists on its behalf.

Such a double standard of activity is, of course, paralleled by a double image of what an institution such as the Royal Society ought to be. Should it be a Salomon's House, a place where research is conducted and where new discoveries are demonstrated, an institute in modern terms, or should it be a place where scientific work is reported, disseminated, and by at least silent approval validated? There can be no doubt that the former image was the prevalent one among the founders of the Royal Society and the one aimed at in practice during the 1660s; but it is no less clear that the society ultimately moulded itself to the second image. The transition from one to the other is to some extent reflected in the history of the membership and composition of the society.

Michael Hunter has studied these matters more minutely than any predecessor. He has identified all the early fellows for whom identification is possible, including that very large proportion who were fellows in only a titular sense – Ralph Cudworth, the great Cambridge Philosopher, Master of Christ's College, for example. He has assessed the interest of each fellow in the society's concerns through the years, and the ups and downs of numbers. No nineteenth-century distinction between "amateurs" and "professionals" is relevant here; what matters in the institutional history of the society is whether a man consistently gave time, money and intellectual energy to it.

As Hunter shows, one core of such fellows kept the society just on its feet from 1660 to the "palace revolution" of 1677–79; then, following the Hooke interregnum, a second core established itself from about 1682, with Hans Sloane ultimately as its leading figure. The chief problem in the society's evolution was the maintenance of the viability of this core, and the provision of the barest finance (for 1696–1700 the society's average annual expenditure was £116, as compared with £233 in 1667–70). Many men would gladly sign their name in the society's book, but few would pay for the privilege; the yield of subscriptions in 1692 was £38. Finance alone destroyed the first image of the Royal Society.

Hunter's lists and tables, and his introductory chapters, set out in great detail the "natural history" of the 550 fellows considered. The present volume is a "second edition" in the sense that a first presentation of the same study was published in *Notes and Records of the Royal Society* in 1976. This "monograph" form of publication from camera-ready typescript with unjustified lines is adequate and correct, though the full pages of small print are trying to the eyes. As an amplified and corrected work of reference, however, Hunter's study will surely remain authoritative for very many years.

Rupert Hall

Rupert Hall was formerly professor of the history of science and technology at Imperial College, London.

THE SCIENTIFIC CONSENSUS AND RECENT BRITISH PHILOSOPHY
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BOOKS

Necessary rigour

Mathematics for Computing
by G. P. McKeown
and V. J. Rayward-Smith
Macmillan, £18.00 and £8.95
ISBN 0 333 291 69 7 and 700

The problems associated with the teaching of relevant mathematics to students of computing are far from straightforward. At one extreme people will argue that advanced mathematics is almost irrelevant; thus courses in computing for non-numerate students are a realistic possibility. Such people will not deny that rigorous and logical thinking are desirable and that these are valuable attributes to be sought in any serious computing specialist. However, they will argue that the necessary rigour can be taught through an appropriate treatment of computer science topics. At the other extreme an argument can be made that computing is mathematics and mathematics is a way of life. What else need be said? As usual the truth lies somewhere in the middle.

Many computer science courses are geared to accept only numerate entrants, and their designers insist on providing mathematics courses to accompany and support the computing element. What should these mathematics courses contain and who should do the teaching? Are traditional mathematics courses appropriate? Do mathematicians appreciate the relevance of mathematics, mathematical logic and mathematical thinking, not to the more obvious areas of numerical analysis, statistics and operational research, but to programming of all kinds? Can they provide the necessary motivation and the necessary emphasis?

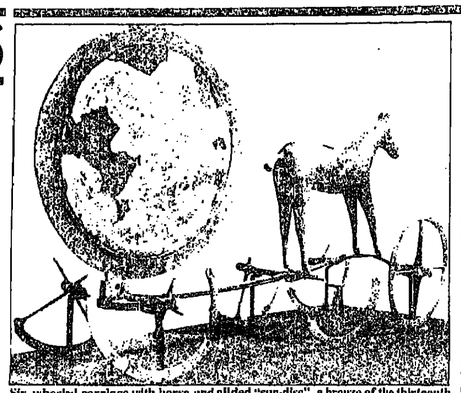
The publication of *Mathematics for Computing* is an interesting and useful addition to the literature and to the debate. In preparing their book the authors (lecturers in the school of computing studies and accountancy in the University of East Anglia) claim to have studied the mathematics requirements in courses in computer science and allied subjects. The book contains an initial foundation chapter that covers propositional logic, set theory, numbers and functions. Later chapters delve into aspects of linear algebra, calculus, probability theory and algebraic structures such as relations, graphs, groups, rings and algebras.

By way of comparison, a syllabus for an "engineering-style" course in computer science has recently been produced by a working party of the Inter-University Committee on Computing. This contained mention of the appropriate mathematics and, like many other studies, concluded that there should be an emphasis on discrete mathematics. However, syllabuses such as these tend to ignore the fact that there are other considerations in designing courses, for example, that students should be able to transfer to other related courses; moreover, many computing courses still have a substantial numerical analysis content. The converse of this argument merits close examination: mathematics courses taken by computer science students in the early years may not exactly reflect the mathematics needed for computing.

Within the book itself there is the occasional mention of computing and computing application. The authors have employed algorithms and this is surely valuable. If I wished to be critical, I might remark that the computing emphasis has been underdone. I would like to have seen the authors justify from the viewpoint of the computer scientist the inclusion of topics such as groups and semigroups. I also feel that computer scientists should be made to realize the fundamental importance and the practical benefits of such processes as abstraction and axiomatization. Had these steps been taken, the book might have given mathematics lecturers a valuable insight into computing and computing students might have been more highly motivated in their mathematical studies. These considerations are vital since they are fundamental to such topics as the theory of computer science but also in more practical areas such as software engineering, database work, expert systems, artificial intelligence, program analysis and verification, simulation, modelling and VLSI (very large scale integration) design.

A. D. McGettrick

A. D. McGettrick is reader in computer science at the University of Strathclyde.



Six-wheeled carriage with horse and gilded "sun-disc", a bronze of the thirteenth century BC from Trundholm, Denmark. Taken from *The Earliest Wheeled Transport: from the Atlantic coast to the Caspian Sea* by Stuart Piggott, published by Thames & Hudson at £20.00. Primarily a technological study, the book ranges over the whole of Europe and western Russia and from the beginnings more than 5,000 years ago to the impact of Rome in the last centuries BC; Professor Piggott's detailed analysis of archaeological remains enabling him to build up a sequence from disc to spoked to iron-tyred wheel, and from ox-drawn cart and wagon to horse-drawn carriage and chariot.

Real life problems

Applying Mathematics: a course in mathematical modelling
by D. N. Burghes, I. Huntley
and J. McDonald
Ellis Horwood: Wiley,
£16.50 and £6.50
ISBN 0 85312 417 5 and 456 6

During the past few decades there have been many books describing the application of mathematics to non-traditional areas such as biology, geography and medicine. More recently books have appeared solely devoted to the theme of mathematical modelling. *Applying Mathematics* falls into the latter category, although rather than merely explaining previously constructed models, more emphasis than usual is placed on helping the reader to formulate a model from a real life problem.

Perhaps reader is a misnomer; participant would be a better description. In order to benefit fully, he is expected to work quite hard. He not only needs pencil and paper and some mathematical ability, but also time enough to develop his own original ideas of how to tackle the many problems set. As the authors emphasize, this participation is crucial to the success of the book, reasoning that the greater variety of real life problems one has to provide a mathematical formulation for, the more proficient one ought to become at modelling. In fact, unlike more traditional mathematical texts, the problems or exercises form the major source of teaching material. The reader is encouraged to formulate his own models and then compare them with the two or three suggested by the authors.

The book is divided into four parts. The first describes how mathematical modelling has helped to provide solutions to three practical problems. These are calculating safe separation distances for aircraft crossing the North Atlantic, estimating the effects of harvesting whale populations, and determining the age of King Arthur's table at Winchester.

Part two consists of twenty examples for the reader to attempt to model. These range from forestry management to maximizing the traffic flow through a tunnel. The reader is strongly encouraged to try some solutions for himself, although possible ones are near at hand. I hope that many readers are strong-willed enough not to peep. The interesting example entitled "Miracle at Mexico City" asks whether Bob Beamon's fantastic long jump of 8.90 metres at the 1968 Olympic Games in Mexico City was in any way due to the high altitude of Mexico City. Several formulations of the problem are provided but they all reach the same conclusion – that altitude was an insignificant factor and that the best explanation of this phenomenal jump was that "everything went just right on the day".

The third part is concerned with the philosophy of model building, illustrating the now classical modelling cycle by two examples. One quibble here is that new situations are introduced rather than taking them from part two. Some confusion may occur while the modeller is attempting to understand both a new model and the concept of the modelling cycle. The final part consists of a further 20 problems to be explored. No solutions are provided but we are directed to other sources for them.

It is hard to describe the level of mathematics used, although someone with a good grade in A level mathematics should be able to understand most of the solutions. However, the ability to use mathematics in real situations usually comes with a maturity beyond this, a maturity that develops through the constant application of mathematics.

Overall, the book is well written and has the advantage that it can be easily dipped into. It provides a useful basis for undergraduate courses in mathematical modelling, and should also appeal to both those who already construct mathematical models and those who wish to do so.

C. D. Litton

C. D. Litton is lecturer in mathematics at the University of Nottingham.

Concept of arousal

Attention and Arousal: cognition and performance
by Michael W. Eysenck
Springer, DM78
ISBN 3 540 11238 3

This latest product from the Eysenck dynasty is an odd book in a number of ways. Although the summaries of research which it contains are useful, the book is presented in a context which can only confuse the reader.

The discussions involve the effects of arousal on selective attention, and on performance in general. Along the route we are introduced to contemporary theories of attention and arousal, and to empirical research on the effects upon performance of such factors as incentives and noise. The role of introversion-extraversion is (inevitably) emphasized in this catalogue of the interactions between factors which are considered to influence arousal. The inventory itself is useful, and many an undergraduate will be grateful for it, but the introductory remarks create expectations which are not fulfilled.

Dr Eysenck first declares that the current involvement with cognition is one of psychology's "passing fads and fancies" which has never "addressed all of the appropriate issues". The alleged failure is that we have excluded from our thoughts any consideration of motivational and emotional issues. The cognitive system is said to be artificially narrow in this respect, and our omission has resulted in a conception of a single-minded system possessing unity of purpose. Eysenck then proceeds to broaden the scope of our considerations, largely by reference to existing work in the literature on cognition. This inconsistency is puzzling, for if the investigation of cognition is a whim soon to be relegated to the history books, why is there so much concern here for the development of the approach?

A further problem is with the introductory promise to consider "the dynamic interrelationships among motivation, emotion, and cognition". What this boils down to is a discussion of arousal. Not only is this a particularly narrow definition of motivation and emotion, but the concept of arousal is elusive, and tends to be defined in terms of the factors which affect it. Occasional mention is made of the physiological correlates of arousal, but this approach to the definition is never developed, and in any case is ambiguous in isolation.

One such correlate is pupil dilation, but entering a dark room will also have this effect as the eyes adapt to the dark – is increased arousal implicated in this situation also? Clearly not (or at least, not always). What makes matters worse is the very weak correlation between the different physiological measures of arousal. Eysenck attempts to circumvent this difficulty by relying on the observable influences on performance of such factors as sleep deprivation, noise, time-of-day, and incentive.

What then is arousal? The answer seems to be that arousal is that which is affected by manipulations such as increased noise, and this circularity suggests a similarity between the problems of defining the two concepts of intelligence and arousal. Eysenck also sees an analogy between these two areas, and suggests that low correlations between the effects of different arousing agents should be interpreted in terms of a general arousal system, and with differences between effects resulting from the operation of additional specific mechanisms and processes. Similar remarks have been made about general and specific intelligence, also in an attempt to account for low correlations.

The concise summaries of a handful of contemporary views of attention are less contentious. Eysenck dispenses with perceptual-selection and response-selection views of attention in a short historical review, and summarizes his register of theories with the suggestion that attention can facilitate processing at almost any stage of information processing. It would have improved the strength of this observation to have isolated a number of potential stages with demonstrations of attentional limitations at each one.

Some readers will also be unhappy with Eysenck's use of the concept of automatization: that quality which is associated with attention-free performance. Although the debate is not entered in this book, it is possible to define an automatic act as a programmed response to an environmental calling-pattern. Eysenck's preference is to rely on the notion of a hierarchy of processes, with automatic acts being located at the bottom of the hierarchy. The explanatory power of this re-description is not, however, entirely clear, and tests of the notion do not readily offer themselves.

Geoffrey Underwood

Geoffrey Underwood is lecturer in psychology at the University of Nottingham.

Plant ecology

Introduction to Plant Population Ecology
by Jonathan W. Silvertown
Longman, £7.95
ISBN 0 582 44265 6

The broad field of plant ecology encompasses many traditions, including an emerging discipline of plant population ecology. Practitioners of this subject are recognized by their tendency to spend much of their lives prostrate on the ground, taking meticulous observations on the births and deaths of individual plants, for, although such events are generally inconspicuous, they are crucial to the dynamics of Nature. It is the relative magnitude of birth and death rates that is immediately responsible for outbreaks and extinctions of species. And, of particular importance, it is the genetic differences in birth and death rates that constitute the essence of natural selection – a process as hard to measure as it is crucial to Nature.

Jonathan Silvertown's book is the first of several we can expect to see in the next few years intended as introductions for students to this fast-growing field. The book begins with an introduction to age-specific and size-specific birth and death rates – the foundations of population ecology. From here, he takes us immediately into a set of case-histories, to demonstrate some of the information emerging from this kind of study.

Risk of death and rate of reproduction are often not independent, because a plant diverting its resources to reproduction does so at the cost of less resources for growth and maintenance. Thus, the next chapter considers the compromises that have been reached between births and deaths in different plant species growing in contrasting environments. He then follows a familiar path from interactions within species, through the experimental analysis of interactions between pairs of plant species, to the effect of between-species interactions on community structure. En route, he stops to discuss the complications arising from the capacity of many plants for indefinite clonal growth.

The author has a clear and engaging style of writing, which, to my mind, captures well the excitement of the subject. As he has gone to some trouble to keep mathematical formalism to a minimum, the book will be readily understood by those with little background in mathematics. Also, as the blend of subject-matter, necessarily selective in a book of this size, has been carefully chosen to reflect the current interests of plant population ecologists, the reader should get a good impression of the issues now providing the motivation for this kind of work.

There are, however, some significant omissions. For example, the reader might be excused for concluding that pathogens have no effect on births and deaths of plants, and that herbivores have little effect. Furthermore, mutualism, a crucial force unrecognized by generations of ecologists trained only to see the antagonistic forces of Nature, is barely mentioned. However, these omissions simply reflect the preoccupations of plant population ecologists. As an introduction, the book is well worth reading.

Richard Law

Richard Law is lecturer in botany at the University of Sheffield.

Volume four of *The Filamentous Fungi*, entitled *Fungal Technology* and edited by J. E. Smith, D. R. Berry and B. Kristiansen, is devoted to the biotechnological applications of filamentous fungi. The volume is available from Edward Arnold at £32.50.

Papers presented at a conference entitled *Evolution of Molecules and Men*, organized by Darwin College in 1982, have been edited by D. S. Bendall and published by Cambridge University Press at £18.00. The 26 papers have been organized into four groups: evolutionary history; molecular and cellular evolution; evolution of whole organisms; and evolution of social behaviour. Sir Andrew Huxley provides the prologue and John Passmore the epilogue.

education for employment



Catering for the clientele

Jack Mansell starts our special supplement on education for employment with a look at existing provision and where it can be improved

With only about half our adult population in full-time employment, educating for employment has to be put into that perspective. Most people need employment for some part of their life; it is the major determinant of how and where we live, and it accounts for much of our status in life. On the other hand, except for a fortunate minority, employment is often either competitive, boring, dirty, dangerous, stressful – or a combination of those things.

Much the same applies to work, which may or may not be paid employment; and life in general. There are many, especially the handicapped, who will be unlikely to get employment. Hopefully, they will be encouraged to work, that is to do useful and purposeful things. These distinctions between employment, work and life are not new and they are frequently used negatively. One can still detect the vestiges of separate education systems for boys (potential employees), girls (potential mothers) and for the handicapped (potential dependents?). Some progress has been made, and integration is now rarely openly opposed. Used positively, the distinctions can be used to justify a balanced education, so that all have the right to be educated for employment, work and life in general.

For many, the age of 16 is a time to choose between education and employment; and as a nation we have conditioned a large proportion of our workforce to regard education as alternative to employment rather than as a complementary activity. There is only a small elite of the working class, the apprentices, have received further education as of right. Many would maintain that the price we pay for this isolation of continuing and further education from employment is a workforce with no great enthusiasm for educa-

> Vocationally oriented education was, and is, of lower priority than academic education. Instructors are graded and trained at a level lower than teachers.

tion (or training) and a somewhat outmoded hierarchy of labour: unskilled; semi-skilled; skilled; technical; supervisory; managerial; the origins of which can be found at school, confirmed by further education and mutually reinforced by employer and employee organizations.

Now it would be presumptious of me to tell the schools system what is should be doing about education for employment, and the schools have undoubtedly had a hammering over the last decade for not relating their curricula sufficiently to the world outside in general and to employment in particular. The extent to which this is justified is not always rationally debated; some would maintain that the schools' preoccupation with "academic" examinations and the selection, grading and "failure" that stems from that, has been a contribution to the apparent "allergy" of many working class people to more education.

Vocationally oriented education was, and is, of lower priority than academic education. "Instructors" are graded and trained at a level lower than "teachers". Written work is valued more than practical work and content is rewarded more than experience. Much of this is related to the relative ease with which "academic", classroom work can be organized, assessed and rewarded compared to practical and experiential based learning. The aims of the new Technical and Vocational Education Initiative are obviously designed to change some of the schools' curricular thinking, but this academic bias would not survive if it were not so well supported by society: by employers, by parents and by the teaching profession itself.

All this has been said before, but it remains essential to understand the inertia of the education system if we are to develop a more productive relationship between education and employment. Much of what has been said about the schools system similarly applies to further education. Here again, there is a bias towards rewarding "higher level" work built into the Burnham structure, which is confirmed and supported throughout the further education system.

Notwithstanding its obvious vocational nature, further education also remains dominated by levels of work based on the trappings of academic excellence. In further education, however, it is easy to see that the number of conventional apprentices has dramatically decreased, especially those in the manufacturing industry, and they are being replaced by an increasing number of full-time pre-vocational students. Many of these changes are irreversible, and with about one or two of school-leavers unemployed, there is now a significant similarity between the ratio of young people and of adults now engaged in full employment.

This, as was noted above, relates to the reality of educating for employment. Many would maintain that it is now as much a matter of geographical accident as ability, as to whether school-leavers find themselves remaining in full-time education, on a Youth Training Scheme as unemployed, or in employment. Because of this the Further Education Unit would maintain that all young people should have similar curricular opportunities. From this it has evolved a "generic" concept of vocational preparation having as its aims the right to acquire basic skills; assistance in assessing self-potential, opportunities to appraise the prospects of employment, and with this the optimization of personal employability; and the development of an understanding of adult society.

Such aims are not exclusive to further education or indeed to young people, but many would maintain that these aims should also be the framework of the 14–18 curricula. They are implied in the New Training Initiative. All this is fine provided they are given pride of place and not regarded as optional extras to be fitted around a dominant single-subject examination system. Vocational preparation, as defined above, with its emphasis on guidance and counselling, formative assess-

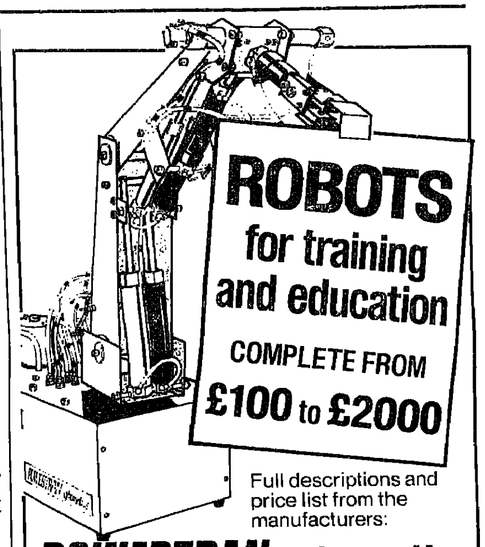
> Employers frequently complain about the lack of mastery in basic skills that apparently inhibits the transfer of competence from school or college learning to day-to-day work.

ment, (planned) experiential learning and individually negotiated programmes, is related to adult life, including work and employment. To ensure the centrality of these curricular components there has to be a "compulsory" core, against which each young person has the right to be checked. Such a core need not be exclusive of more specialized learning whether academic or vocational. Indeed, the need to have an element of local curriculum design within a national framework is recognized in the new 17+ and has long been mooted by the FEU, but what we are discussing is not only balance but mastery.

Employers rarely complain about lack of content in young people; they frequently complain about the lack of mastery in basic skills that apparently inhibits the transfer of competence from school or college learning to day-to-day work. This tends to imply a lack of planned experience. Thus we have often grossly exaggerated accusations made against the unreality of education. The end result is the YTS which, with its employer-based philosophy contributes significantly to a non-role for education related to employment. Only learning in the work situation is real, relevant and worthwhile . . . work-based assignments are good, classroom learning is bad . . . education-driven learning is teacher-centred, work-driven learning is trainee-centred, motivating and useful . . . and so on.

Of course it is an unnecessary polarization, but as always examples can be found which appear to prove

continued on page 20



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WIGAN COLLEGE OF TECHNOLOGY MANAGEMENT CENTRE

How Wearside College accepted a challenge

by Alan Cass

Wearside College has long recognized that in Sunderland unemployment is not a short term problem. Some areas of the town now have a 50 per cent male unemployment rate and, for young school-leavers, employment is a luxury to be experienced only by the privileged few. About 3,500 young people will be leaving school this year in Sunderland and most of these will have to be accommodated on the Government's Youth Training Scheme.

The college was established to provide further education support for local industry. As the industrial base has disintegrated, it has been necessary to review the organizational framework and decide how the college could best respond to this new challenge. Redeployment of resources took several years and the college was able to reflect on and reassess the new and demanding role which it would have to undertake. Other colleges may find themselves making this transition over a much shorter time.

Youth Opportunities work in the college between 1978 and 1980 represented about 12 per cent of the work of the college. In 1980, the Secretary for State for Employment invited Sunderland local authority to participate in an Exemplary Project. Wearside College's contribution provided 260 placements each term and increased the YOP work to about 20 per cent of the total college provision. The authority recognized the shortage of work placements in the area and put forward a very imaginative approach using both of the colleges of further education in the town and offering the opportunity for a one year training programme of college-based tuition and matched work experience.

The programme design elements include: induction; occupationally-based training; up to 26 weeks off-the-job training and education; core skills; guidance and counselling; assessment; profiling; matched work experience. These design elements compare very closely with the design elements of the Youth Training Scheme.

In reviewing the college's provision for coping with the Exemplary Project, it was recognized that a greater number of lower ability youngsters would be coming into the programme. Several important changes had to be made to the provision. Experience of the Youth Opportunities Programme indicated that a long-term solution could not be provided by a series of courses. Each period of study had to be unique, in part at least, to each individual and the college had to develop a supportive framework of personal development and counselling.

Staff needed to be aware of what was being done in other areas of the Youth Opportunities Programme. External liaison procedures had to be reviewed. Experience showed that it could be counter productive to have too many staff discussing schemes and student performance with Manpower Services Commission officers and careers staff. It was necessary to reinforce certain areas within the college to strengthen the curriculum development team and provide the essential supportive framework within the college. Programmes had to be made more flexible to take account of the needs of the individual. It was important to ensure that the needs of departments did not dictate the provision for the individual and a departmental restructuring was carried out to provide a more effective coordinated approach to vocational preparation within the college.

The curriculum development team worked closely with the staff development committee and a very ambitious staff training programme was introduced. Staff cooperation in the process of change and the organizational health of the institution were important factors and the staff development programme proved to be very effective in persuading staff that they might have to reassess their teaching strategies. The need to move from a tutor-centred approach to a trainee-centred approach was readily accepted and staff enthusiastically embarked on a series of curriculum exercises to provide a number of learning packages which would meet the criteria laid down in the MSC Youth Training Scheme guidelines.

In assessing the movement from YOP to YTS, it is interesting to note that the Youth Task Group report stated: "The task is one of taking what is relevant from the present and making it available more widely".

It is, therefore, sad to reflect that, having developed the design elements for the Exemplary Project, largely to replace the shortfall in work experience placements, we now have a Youth Training Scheme which makes even greater demands on work placements. The new managing agencies may not be aware of what further education can offer. In many cases they may not want to use the further education service at all. Wearside College recognizes that individual trainees' and sponsors' needs will make new curriculum demands.

Through the experience of the Exemplary Project, the college has arranged its resources into a series of packages which can be selected to suit individual programmes. Each of the programmes has been designed to fulfil the requirements of the MSC guidelines in providing occupationally based training and education and using assignments which attempt to integrate core skills with work-based learning. The college is now in a position to offer an *à la carte* curriculum menu to the newly emerging agencies. We are, however, having to redress our shop window but, as any good retailer knows, it is not just the quality that is important but the price of the goods on display. I am, therefore, deeply concerned that this may persuade MSC to look at inferior quality goods.

There is no doubt in my mind that the Youth Training Scheme has to be made to work and I hope that colleges will be invited to play a major part. For many, further education would appear to offer the only immediate progression route and yet I am disappointed at the number of schemes being accepted without any FE links. Further education is not mandatory and many may argue that it should not be. I would have hoped to see trainees given the right to it if they felt they could benefit. The MSC funding to managing agencies puts the decision into a financial debate and leaves the decision up to the managing agency and not the individual trainee.



The Youth Training Scheme provision in the Sunderland area will be different from the national pattern. There will be greater emphasis on Mode B schemes and the Mode B1 schemes are tending to make themselves self-sufficient. Further education is, therefore, required for only minimal support in many schemes, and for how long?

So much of the new scheme depends on the quality of the instructor. It will be my job, in running an accredited centre for staff development, to develop these trainers and assist the MSC Quality Team. The present system does not appear to provide the area boards with enough control on the selection of trainers taken on by managing agencies. Staff development can only do so much and it seems unrealistic that trainers may be selected without essential skills. My impression is that the accredited centres will more than have their work cut out.

In the Sunderland area, very few schemes offer meaningful opportunities for the more able school leaver. The MSC discussion paper, *Towards an Adult Training Strategy*, stressed that major changes in the labour market have already made themselves sharply felt and that, while unskilled and manual jobs have declined, there is likely to be a growing demand for people with technical and professional skills. MSC officers in parts of the North East have a difficult task in finding schemes which can generate a foundation base for technicians. Where, I ask, will the next generation of technicians come from in Sunderland?

The further education service has been criticized by MSC for failing to respond to provide a new and realistic curriculum for young unemployed school leavers. Experience at Wearside College has shown that colleges can respond, given time, resources and a degree of permanence. It is difficult for colleges to redirect resources into arens which offer no long term guarantees. There is no doubt about the need for a higher quality training programme for young people, but it remains to be seen if agencies outside the further education service can deliver the quality required for long term progression. The Youth Training Scheme has been initiated to provide a real training foundation for employment. I hope that it will be appreciated that there are particular problems in introducing an employer-based initiative in an area where employers are becoming very thin on the ground.

The author is principal of Wearside College of Further Education.

Catering for the clientele

continued from page 19

the case. To argue against these accusations is a complex and demanding business; and perhaps it should be? But few employers, or politicians, are able to find the time to discuss the value of personal development, the development of talent other than workplace skills, the appreciation of other cultures and the inculcation of political and economic literacy.

To explain these things requires the vocabulary of curriculum development: aims, objective, assessment, profiling ... and like most jargon it is unwelcome and is seen as another example of the way education cannot relate to the real work (of employment). To make matters worse, the education system is now having to deal with someone else's jargon: trainee centred reviewing, process skills, occupational training families, skill ownership ... Much of the interpretation of which deliberately supports the polarization referred to above. This is a pity, because there are plenty of good examples to show that a suitable mix of education, training and work experience not only provides a gateway to work and adult society, but also increases the mutual respect of the partners who provide the mix. Negotiated curricula is not only about agreed contracts between teachers and learners, it is also about contracts between providers.

In the context of the above, what should education for employment mean to the education system? Primarily it should mean that as a particular form of work and a part of life in general, employment must be recognized as a central aim of the educational process and not something which is not quite respectable. The corollary of this recognition is that the education system must help to prepare all for employment, work and life; not just those whose talents are best matched to the present examination system.

It also means that employment has to be put not only in the context of wealth creation but also in the context of unemployment. And if this requires a better understanding of the nature of the generation of profit, employment, the quality of work, the need for a flexible work force, the possibility of unemployment and of the consequent responsiblity of society – so be it.

> If education for employment as a particular form of work and a part of life generally is to be a central aim of the curriculum, then further education has to widen its clientele as well as broaden its base

It follows from this that assessment, guidance and support must be related as much to employment and unemployment as to academic progression; and these processes must be regarded as an essential part of the curriculum. It also follows that with an uncertain employment prospect, another prime aim of education for employment must be the generation of as much choice as possible. Any education or training system that reduces choice is illiberal.

What this means in practice is a broad-based curriculum, and the (instinctive) demand of many employers to have available at the age of 16 a stock of specifically trained labour or jobs which may not exist, must be resisted; if necessary by using data related to employment and unemployment. The corollary of this is that both schools and colleges must be prepared to regard competence and experience in a wide range of basic skills, as an essential part of a core curriculum to which everyone is entitled.

The definition of basic skills is or should be, a dynamic one: skills are not the prerogative of apprenticeship or indeed of employment. For example computer literacy is now recognized as part of the parcel of basic skills, yet few vocational syllabuses include it as a compulsory element. The teaching of new skills as well as (necessary) old skills, requires a constant re-appraisal of content and method.

If education for employment as a particular form of work and a part of life generally is to be a central aim of the curriculum then further education has to be allowed to relate to the whole spectrum of employment and not just to a part of it. This may well mean very small groups in some diminishing but essential skills. It also means the creation of non-traditional curricula for non-traditional clientele. It seems inconceivable that there should not be an expanding demand for more education as the volatility of employment and the use of new technology increase. Relating to employment includes relating to unemployment and to obsolescent skills when they occur.

It may well be that society at the moment is not very supportive of small (ie uneconomic) learning groups, but if the employment data indicates say, that only four mechanical engineering apprentices are required in the locality that year, then such groups must be supported not merely tolerated. Similarly if, say 4,000 adults are suddenly made redundant from a local firm, then the education system must be given its share of the resources necessary to "rehabilitate" those people. Similar situations exist with respect to blacks, handicapped and many women – all of which are faced with problems of employment.

Educational technology, with its opportunities for open and distance learning, will be able to solve some of these problems, but by no means all. The message then is relatively clear: if the education system is to relate to employment then it will have to change many of its priorities, processes and methods. The *quid pro quo* should be a more enlightened way of defining education for employment and a more continuous and comprehensive provision than exists at the moment.

Within this provision the education system will have to work as a partner with other agencies, be prepared to use their vocabularies and, sometimes, their money. Such a partnership can however, only survive if it is based on mutual respect and stability rather than on threat of annihilation and crisis-led funding!

The author is chief officer of the Further Education Unit.

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Adults: the poor relations for too long

by Jenny Bacon

During the coming months the Manpower Services Commission will be preparing something this country has long needed – a fresh approach to adult training.

In doing so, the commission will draw upon the experience and views of many interested parties, put forward in response to an MSC discussion document, *Towards An Adult Training Strategy*, published in April this year. The views are still coming in, but one thing is clear – they feel, as we do, that adult training and retraining has been the poor relation for too long.

This accords with objective three of the MSC's New Training Initiative, contained in our *Agenda For Action*, published in December 1981 to "open up widespread opportunities for adults, whether employed, unemployed or returning to work, to acquire, increase or update their skills and knowledge during the course of their working lives".

The publication of this year's discussion document was a step towards achieving this goal.

A strategy to implement objective three must complement action on the other two NTI objectives. We are aiming for vocational education and training framework which, overall:-

- offers young people entering the labour market a proper foundation training to equip them with the basics of working life, the capacity to go on learning, and essential transferable skills on to which specific skills can be added throughout their working lives;
- enables people to enter the labour market at any age, with different education and experience backgrounds; to have that education and experience taken into account in the foundation training they undertake;
- enables those in the labour market, to undertake further training or retraining as and when necessary, which builds upon and reflects their previous skills, knowledge and experience, and results in testable levels of competence recognized by employers.

What happens in the labour market must condition the aims of the training system. Relevant factors include major and continuing structural changes often radical, in industries and occupations, enhanced by more widespread use of new technologies; change in the nature of skills required (eg more jobs requiring diagnostic and process skills, technical knowledge) and continuing high levels of unemployment.

This calls for a training system with capacity to respond rapidly and to deal with the unpredictable. It must be able to encompass a sea change in vocational education and training, if for the future we are to become a "nation of technicians".

In the short to medium term, the system will need to help the present labour force to adapt, to match the emerging structure of employment and changing demand for skills. This means more provision of updating and upgrading training for a wider range and larger number of people. Over a longer timescale, the system will need to provide people coming in to the labour force with a better foundation of skills and knowledge particularly technical skills to enable them to go on learning and to cope with change. This may require changes in the foundation education and initial training systems. The system will also need to offer different ways of helping the unemployed people to keep in touch with the labour market, develop general work competences not necessarily related to employment, and to deal with the realities of unemployment.

We are therefore looking for a system which is coherent (not least in its links back into the education system) with some common objectives for all providers of and influences upon adult training and education. It needs to be adaptable, and responsive to the needs of employers and individuals. Training offered under it needs to be based upon sound labour market intelligence, to be attractive and accessible to its clients, and relevant to employment needs. In the interests of economic regeneration and of making our workforce competitive, it needs to be employment-driven, in terms of objectives and what providers respond to. But the demands upon it are greater than the sum of individual employers needs. The expectations of individuals, including the unemployed and self-employed, overall management of the economy and the links with education must also shape the system.

A system with the characteristics outlined above cannot be the exclusive property of any one component in it. The first issue an adult training strategy needs to address is whether it is possible to get some common ownership of the problems to be tackled. We are therefore working for:-

- widespread recognition, by the clients of adult training and its providers, that adult training and retraining is essential to cope with economic change and future demands;
- agreement on policy objectives that are coherent and mutually consistent;
- some marshalling of all the resources at present used for adult education and training behind common objectives;
- an integrated approach to standard-setting and assessment of competence which reflects labour market needs and helps proper progression from education, foundation and initial training into continuing education and retraining;
- improving and sharing information about what training needs to be done, and what is available, for dissemination among the providers and clients of the system.

This is not a job for the MSC alone – far from it. There are many areas in which cooperation and agreement with others, and leadership by them, will be essential. Above all, much greater collaboration between MSC and the educational world is needed to make a strategy work and to place responsibilities in the right places. The MSC could of course plough its own furrow. But such an approach would be neither strategic nor optimal: it would not resolve the problems we believe exist.

That said, the MSC's own programmes for adult training need adjustment to reflect labour market demands and developments on the other NTI objectives. We can make no assumptions about new resources coming available for adults, but must consider whether we can do different things in different ways with what we have – around £260m in 1984/85 for all our adult training programmes including the Training Opportunities Scheme, grant schemes to employers and the Open Tech.

We shall be looking at the economic relevance of our programmes, especially the TOPS, and how to improve their responsiveness to local employment needs; to support innovatory training methods – by extending the Open Tech and otherwise; to improve access to training; and to explore different ways of helping the unemployed. In particular, we are being urged to consider such possibilities as:-

- collaborative projects at community level, involving joint funding by the MSC and others interested, to mobilize local resources in tackling employment problems and developments to which education, training and retraining for adults can contribute;
- development of information on local labour markets and training providers;
- linking relevant parts of the TOPS training and the Community Programme into "work preparation" offerings for unemployed people;

Well, it all started when we decided to train the trainers... obviously one then had to train people to do that, which meant training people to train the trainers' trainers and so on until EVERYONE had a job in training!



However, whatever the MSC does will be only a small part of what needs to be done. Ideas about what others in the education and training world can do, and more important, willingness to collaborate in developing and implementing a coherent strategy, is what we hope will come out of the consultations.

The author is director of occupational training at the Manpower Services Commission.

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Call for a change of approach

by Leisha Fullick

While the Youth Training Scheme, whatever its merits or demerits, is recognized as a radical departure in training for youth involving half a million young people and having major implications for education, industrial relations and the structure of the economy generally, the MSC's consultative document *Towards an Adult Training Strategy* promises much less for those who have been looking for a similar development in adult training.

Objective III of the New Training Initiative called for the opening up of wide-spread opportunities for adults whether employed, unemployed or returning to work to acquire, increase or update their skills and knowledge during their working lives. It was an objective more or less heavily endorsed by all those in the education service concerned with the teaching of adults. Adult education broadly defined does incidentally, command a surprising sizable chunk of the post-school budget. The DES estimates it spent £75m on the education of adults in 1982–83). Alas, the MSC's document represents a considerable narrowing of focus with regard to the implementation of Objective III and it is a focus that has progressively narrowed with each draft of the strategy that has been leaked over the last month.

It would be difficult to quarrel with the general proposition of the document that there is an urgent need for a new approach to adult training in this country. It pinpoints very well a number of general issues and problems with regard to changes in the structure of the economy, the definition of skill in our workforce and the broader needs of individuals for personal development in their working lives. It gives due recognition to some of the marked inequalities in our society – regional, sexual and racial. The document admits of the failure in the past to secure sufficient training in the right skills for the right people by the traditional method of leaving it largely to the employers. It rightly calls for a major change in attitude on adult training.

The MSC's preferred solution to the problems it outlines is a largely privatized employer-led training system which gives insufficient recognition of *the importance of combining* education training and work in a continuous provision. It must be in doubt whether this can bring about the changes in attitude called for and the "flexible" "highly motivated" workforce so beloved of MSC policy documents. Literacy, numeracy and communications underpin most occupational skills. More importantly, they give adults confidence and control and the ability to use the kind of information networks described in the document as the prerequisite of successful training schemes. It is difficult to see how the training system proposed here could tackle these problems which will require a comprehensive approach to the education of adults firmly established in the post-school sector at all levels with appropriate financial support for individuals and institutions.

Those in work are specifically identified as a priority group for skills updating and acquisition. Despite calling for the preservation of basic education and training opportunities for disadvantaged minorities, the document offers no real challenge to the forces deeply embedded in our labour market system which marginalize black people, women and those adult males clearly classified as unskilled or semi skilled who are increasingly likely to be out of a job. In an extraordinary breast beating exercise the MSC castigates itself for the "failure" of its own small scale training programmes for the unemployed – TOPS and the Training for Skills Programme. It suggests the virtual abandonment of what it calls "speculative training or training for stock".

Of course it is unrealistic to assume that we can train our way out of 3,500,000 unemployed or that the root of all our economic problems is key skill shortages in the workforce, but the rhetoric against speculative training points to the MSC's desire, which is nowhere coherently argued, to reduce its own interventionist role in the labour market – a role that has more merit than is given credit for in this strategy. This is not surprising, given the current political climate which has, of course, remained unchanged since the document's publication in April. But the MSC's concern about "displacement" as a result of its own training schemes is surely somewhat ingenuous given the substantial loss of whole areas of industrial employment and therefore training opportunities over the past few years. The document is silent about a whole body of theory, some of it developed from the MSC's own research, about the role that training can play in various strategies for economic change and recovery.

There are a whole range of mechanisms, dear to the heart of policy makers in more progressive times and credited with some success elsewhere which could be used to tackle some of the fundamental problems the strategy document identifies. Some of these have already been taken on board – for example, the desirability of continuing young people's education and training for as long as possible in order to protect them from competing in unequal terms in a harsh and unwelcoming labour market. Other devices such as the shorter working week, work sharing, the restriction of working time, recurrent education and above all Paid Educational Leave are missing. The absence of this perspective from an adult training strategy is surely a serious lack. PEL for example, though the precise nature of entitlement and provision varies from country to country, has been fairly widely accepted in Europe as an instrument of manpower planning, however limited, and as a means of propagating the virtues of social and economic change. And of course the document is wholly silent on the role a national training policy could play as an instrument of economic redistribution, as a means of easing the burden of unemployment and as a means of lessening the chances of long term unemployment.

As yet we do not have many clues as to the precise mechanisms for delivery of an adult training strategy. Even the emphasis on local delivery, attractive at first glance must be regarded as suspect, given how little that is intelligible the MSC has to say about what is strategic about its training strategy. Given the MSC wishes to reduce its own interventionist role in the labour market both in terms of job creating and training, and given the lack of any firm position be accorded to the education service in the development of an adult training strategy it is likely alas that local delivery may prove to be the conscious or unconscious mechanism whereby the real redistribution process takes place – between the inner cities and the shires, between those in and out of work, between women and men and between those who have access to education and training and those who do not.

The author teaches at Southwark Institute of Adult Education and is vice chairman of the London Borough of Newham education committee.



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Building an adult system

by Frankie Todd

In years to come the 1980s will probably be viewed as the decade that saw a significant shift in the provision of education for adults.

For while traditional non-vocational adult education, has come under economic attack, continuing vocational education, having developed steadily through the 1970s, is currently expanding at an unprecedented rate.

Part of the impetus for this expansion is in response by higher education institutions to a forecast decline in student numbers, but it is also the result of policy-led expectations among professional bodies and employers which makes continued work-related learning very much the norm in many areas of working life.

One estimate is that during 1976–77 up to eight million people may have done some learning related to work. There have been many new initiatives since that date which have added substantially to that number.

Now central government has entered the arena with the setting up of *two new schemes: the PICKUP* (Professional, Industrial and Commercial Updating) Scheme from the Department of Education and Science and the Open Tech under the aegis of the Manpower Services Commission. The new developments combined look set to transform the face of post-experience vocational education over the next few years. The question is, into what?

There is no doubt of the need to continue learning in order to achieve and maintain a high standard of work performance. Mistakes cost lives in some tragic instances, while less dramatic but still serious penalties include lost time and money. There are also decrements in the quality of life for clients and consumers. Mistakes in day to day practice can scarcely be humane, and so continuing education is inevitably bound up with professional ethics.

Existing provision is bewilderingly pluralist with involvement from professional and corporate associations, trade unions, the public utilities, industry and commerce, the Business and Technician Education Council, and local and central government departments, in addition to institutions of further and higher education. Since there is no validating system there is plenty of room for cowboy companies offering training of indifferent quality at inflated prices.

Several trends are emerging. One is the use of "open" learning systems which enable access to learning at a time and place to suit the client. The Open University, for instance, using distance-learning techniques, has produced post-experience courses in a range of areas since the Venables report. More recently several management colleges have made their face-to-face teaching "open" to people in work – who may pick up on teaching at times that suit them best.

Other trends are education that is "tailor-made" for the requirements of a specific group and the proliferation of "in-house" training as opposed to expensive residental courses. There is also a small but positive trend for groups of practitioners to devise their own learning, collaborating to tackle job-related problems independently of outside expertise.

Perhaps the most significant feature of recent years has been the rise of "updating" as a rationale for post-experience education. This is not unconnected with the difficulties experienced by non-vocational education. The emphasis there on education as an agency for enlightenment and self-development is replaced in an updating approach, such as PICKUP's, by an *emphasis on* work-related content. But can we afford to design post-experience education on this criterion alone?

The experience of the National Health Service's continuing education unit for architectural staff suggests that updating is only one element of a useful post-experience education service. This unit, set up at the Institute of Advanced Architectural Studies, University of York, in 1979 and funded by the Department of Health and Social Security, has a brief to provide an educational service for architectural staff in the health service and in related private architectural practices.

The unit's effort was initially concentrated on three main areas: a programme of research into the educational needs of different staff groupings; the development of educational events, mainly held "in-house" around the country, and based on the insights gained from this research; and the design and production of educational materials. To this was added a service offering information on educational events and materials widely available.

However, we soon found that unless the organization has an internal system for planning continuing education, participation in learning tends to take place on an ad hoc basis with correspondingly patchy results. Accordingly, a substantial part of our effort now consists of working with senior management at health service offices to plan educational programmes. These take into account organizational, professional and individual needs. This side of our work is as important as the resulting education itself.

A purely "updating" approach focuses upon learning content at the expense of the learning process and it addresses only instrumental aspects of the person. But if we look at mistakes in performance it is clear that they reflect the whole person. To redress them we need not just more knowledge, but also to support reflection upon practice and the development of maturity and self-awareness. This cannot be achieved by passive, impersonal teaching. It requires an emphasis on active, self-directed learning.

The most exciting challenge to post-experience education is that its whole *raison être* is to improve performance. The greatest threat to its success currently is that it might be built out of the spare capacity of higher education instead of being designed for the job. A good continuing education service needs staff development for the teachers and planners who run it. It needs ongoing research to ensure the appropriateness of what is offered. It needs a good information service and the development of educational materials. It also requires work with *client* organizations both to help them plan continuing education effectively, and to start an "enabling" process within the organization so that education can be put into effect.

The quality of existing provision varies enormously. Some of it is inadequate in ways that make it hard to construct a good service simply by expanding or extending it. It may exist to improve practice – but too often is predicated upon the principles of knowledge transmission. Its participants are experienced – but this experience is not necessarily incorporated into the learning situation as an acknowledged resource. Changes in practice can only be implemented within the work setting – yet existing resources are too often concentrated on *the practitioner in the classroom* rather than on the practitioner in institutional life.

The possibilities are all there. But it remains to be seen whether they will be developed in a coherent and principled way.

The author is a research fellow at the NHS continuing education unit for architectural staff, Institute of Advanced Architectural Studies, University of York.

Beware becoming son of YOP

by John Pardoe

Despite repeated assurances by the chairman of the Manpower Services Commission and the Secretary of State for Employment that the Youth Training Scheme is on course to meet its target, few people seem to believe it. Comment in the press over the last few weeks has been increasingly sceptical.

Some of this scepticism should be taken with a hefty pinch of salt. Many of the sceptics have a professional axe to grind. Some professional educators simply cannot believe that anything can be delivered without their midwifery. They think they have an inalienable right to the monopoly an inalienable right to the monopoly provision of education, training and anything elese to do with young people. They could all of them do with a training course in professional humility and be forced to study the collected works by Ivan Illich!

There are, however, some very real problems with the Youth Training Scheme which the Manpower Services Commission will have to get to grips with very shortly if the whole scheme is not to end up smelling like the Youth Opportunities Scheme.

The YOP failed because it was not a vocational training scheme. Most of its young participants received no effective training at all and came to see the scheme as a *cynical ruse to* take their names off the unemployment register.

The Youth Training Scheme was never intended to be son of YOP. Yet some of the schemes now being approved by the area manpower boards have so insignificant a training content as to make a mockery of the scheme's name.

Part of the problem is that most of the big names in British industry have simply failed to meet the challenge of the scheme.

In the early days of the new scheme it was hoped that a high proportion of places would be provided by those big companies which had always given excellent training to their own staff. It was assumed that they had spare training capacity and that they would welcome the chance to fill this while at the same time demonstrating the excellence of their training and their sense of social responsibility.

Unfortunately, it has not worked out like that. The depth of the recession has been greater than anyone expected and has hit even the largest companies. Mass redundancies have not created the best climate in which to take on a large number of new young trainees.

The result is that the number of places provided by these big companies is far smaller than was originally hoped. The Manpower Services Commission has therefore had to look to local authorities and entrepreneurial managing agents for more places than it originally intended.



Sight and Sound Education Limited always intended to play an active role in the Youth Training Scheme. Originally, we did not envisage being a managing agent. We assumed that our role would be to provide off-the-job training to other managing agents, who would probably be large industrial and commercial employers.

Sight and Sound has a long record of training for the Manpower Services Commission stretching back to 1973. It offered the MSC exactly what it wanted: training centres open all the year round, staggered weekly intake, and intensive and highly cost-effective skills courses. Moreover, Sight and Sound's programmed learning techniques assured the MSC that wherever a Sight and Sound centre operated the quality of the training would be identical.

The company is the largest clerical and commercial training organization in the United Kingdom and the most widely used keyboard training organization in the world, where its training systems are in use in 40 countries, 19 languages and on 23 different keyboards.

In 1981 Sight and Sound decided to cooperate with the MSC in the pilot scheme for the YTS, and provided 1,100 training places for work skills courses. We offered 26 weeks off-the-job training and 24 weeks work experience.

It was our experience and success in this pilot scheme which convinced us that we could and should become a managing agent under the Youth Training Scheme.

Sight and Sound had already signed managing agency agreements with the MSC for over 4,000 training places in nine training centres at London, Bath University, Bristol, Birmingham, Manchester, Liverpool, Sheffield, Glasgow and Edinburgh.

We are determined that for our trainees at least the YTS will offer what its name implies, and not occupational therapy for the unemployed! Instead of the bare minimum of 13 weeks off-the-job training – which seems far too often to have become the maximum – we are providing 20 weeks. The curriculum includes keyboarding, computer studies, copy-typing, word processing, data entry, audio-typing, shorthand, book-keeping, payroll and life and social skills. Trainees can take some or all of these according to their ambitions and aptitudes and can change direction at any time.

A typical trainee will start with eight weeks full-time training in a Sight and Sound centre. This will be followed by about three months work experience with one day a week back in the training centre. There will then be a further period of full-time training of some five weeks, followed by a final period of five to six months' work experience with day release back in our centre. The 20 weeks off-the-job training is built up therefore of 13 weeks full-time training and 36 days of day release.

There are those in the MSC and elsewhere who scratch their heads in wonder at how all this can be done within the block grant. While others in industry and colleges of further education moan and groan about the lack of funds and pare their training to the bone to make ends meet, Sight and Sound has intentionally picked up the Government's challenge on behalf of the private sector of industry.

At this stage, I am profoundly glad that we decided to become a managing agent in our own right. Some of the inquiries we are receiving from other managing agents about providing their off-the-job training are, frankly, scandalous. They seem to think they can use Sight and Sound's training reputation as a figleaf to hide the miserable cheap-skate schemes they are hoping to foist on unsuspecting young people. If area manpower boards are passing these schemes it can only be out of desperation or carelessness.

Sight and Sound is happy to provide first-class off-the-job training either on our own premises or on those of another managing agent or employer. But we do not wish to talk to people who see off-the-job training as the excessive price they have to pay for cheap labour.

Anyone who wants to see what British industry ought to be doing under the YTS might care to visit ICI's agricultural division at Billingham and the Sight and Sound training centre there. At least no one at ICI seems to think that the YTS fell off the back of a lorry just for their benefit.

The author is managing director of Sight and Sound Education Ltd.

Dancing with the devil

by Chris Webb

It is probably worth restating the origin of the Notting Dale Technology Centre, as it puts both its educational thrust and its "enterprise" into a far broader context than much of the usual debate concerning information technology and vocational training. As long ago as 1977/78 the work of various students at the Urban Studies Centre was revealing both a contraction and a transformation of our local west London economy.

These two effects were producing a bleak prospect for both youth and adult employment and this opinion was well supported by research such as the Nora and Siemens reports from Europe, both indicating *net job* loss due to the application of microtechnology in various "office" contexts. Equally clear was the fact that information technology, penetrating as it does all the occupational groupings that economists can devise, was going to be both a job killer, creator and transformer simultaneously – hence, the Faustian connotation of the title!

Notting Dale Technology Centre, then, was an attempt to address, in a local context, these issues of job-skill mismatch and overall decline of job opportunity. To attempt this we felt that the "open access – learning by doing" model of the Urban Studies Centre could be translated into an effective technology centre.

Its aims would be three-fold. One – to set up a learning base for young, unemployed people within electronics, computers and modern office systems. Two – to make the same facilities available to a range of people within the "community", from small businessmen to groups inspired by need, such as the disabled or redundant. Three – to use these connections to develop services and products within the technology, so that jobs would be created within locally spawned firms. This last intention in particular can look like mere rhetoric given the inability of nation-states to cope with this within the developed world!

It must be clear to all technophobic adults that the young, in general, learn with impressive speed and facility within computer-based technology. At Notting Dale this was translated into two major policies. One, that there would be no academic prerequirement for entry, only expressed self-interest. Two, that the learning context would be richly equipped and that the curricular thrust would be "learning by doing".

I feel that it is less than semantic to stress "learning" as opposed to "training", because this technology is an often anarchic medium for self-directed learning. The challenge here is that such an approach needs the most excellent resource and teacher management, as well as having an inherent demand for ongoing development in what is a very fast moving field.

Of our first two generations of trainees, the level of formal academic qualification from school was minimal. Personal interest in electronic music, Space Invader arcades or a purloined ZX81 was a more likely background! However the speed of learning and the range of competencies put together has often been formidable. This is reflected in the job placement rate in ITECs as far apart as Newcastle and Portsmouth. Many of these jobs are not in directly related information

continued on page 24

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education for employment

Tapping London's skill resources

by Mike Cooley

Faced with the plight of the capital's 353,000 jobless, the Greater London Council set up the Greater London Enterprise Board (GLEB) last November with some £30m to invest in the current year in industrial developments in the area.

The board is one of the agencies charged with implementing the GLC's industrial strategy, aimed at providing "socially useful and sustainable jobs". Other agencies include a Popular Planning Unit, which aims to mobilize trade unionists and community groups to participate actively in planning the future of their city. The Economic Policy Group is developing a London industrial strategy, to provide a framework within which to begin to resolve the economic problems born of restructuring, recession and unmet needs.

Wherever the GLEB intervenes to save or create jobs, it insists in conventional companies, on enterprise planning agreements involving the workforce. It also encourages cooperatives and other innovative forms of democratic industrial structures. So those who work in London's threatened factories and workplaces need to know what other product ranges or services they could work on, if the GLEB's intervention were to give them a say.

Sadly, traditional management power structures have prevented "the workers" (including design staff, technologists and researchers), from having any significant say in planning the future of their enterprise, or any access to research and development facilities to develop new products.

But Greater London's three universities and seven polytechnics offer a range of scientific and technical resources, material and human, hard to match anywhere else in the world – and with little real contact with the community outside on which they depend, apart from limited contact with one side of industry.

Technology networks are the GLEB's innovative attempt to bridge this gap. In the current year, it is providing £3m to set these up, and buildings are now being completed and staff recruited for the first two.

Three of the networks are geographically based: the north and east network, in conjunction with the North London Polytechnic and the south-east network in conjunction with Thames Polytechnic and other local education institutions. A West London network is at the planning stage.

Two of the networks are product based. An energy network is being set up in conjunction with the Polytechnic of Central London and the Polytechnic of the South Bank. A new technology network involves academics from Queen Mary College, Imperial College, City University, the Polytechnic of Central London and researchers at St Thomas's hospital.

Networks will provide a creative interface between the community and those engaged in academic and scientific work. Each network has one or more buildings close to a campus but not on it. Experience shows that industrial workers and community groups find university environments rather alienating (probably most students do likewise but then they haven't as yet got much choice).

They provide an environment in which both can meet on neutral ground and where the projects undertaken tend to be developmental and more activity based than research orientated.

Each network will have a small core staff which can demystify science and technology and appreciate the deep tacit knowledge of industrial workers and those who live in the community. They could be specially recruited, or seconded from a university or a polytechnic.

Each network will be run by a democratically-elected management committee which will represent community groups, the academic institutions, the borough councils, trades councils, cooperative development agencies and other groups and enterprises with a legitimate interest in the running and use of the networks.

In most cases the networks will have some sort of "shop front" which builds on the tradition of science shops in Holland but links this with real development and manufacturing capabilities.

In some instances workers in declining factories may be involved in setting up small embryo units which when they become self-sustaining can move out as self-sufficient industrial units. Even at this embryonic stage there are strong indications that the networks will meet real requirements in the community.

Workers from sections of the electromechanic industry are now working on motor-controller devices using micro-processors in a system which is likely to result in significant energy savings and provide a means of moving from electro-mechanical equipment to electronics.

The new technology network is working on an expert computer system in conjunction with a major teaching hospital to develop software which will diffuse the most up-to-date knowledge of the consultant back into the community and general practice.

Tenants groups are working with the energy network on products to reduce energy costs in their buildings. Societies for the disabled and some of their advisers have produced a list of 457 products and services which they require. Some women's groups have suggested training courses based on the recycling of electro-mechanical and electronic equipment so that they could develop the deep diagnostic skills involved in the repair of such equipment. Some of these groups suggest that they would prefer a separate all-women working environment until they develop the competence and confidence to work with male colleagues.

Where a network helps a group to develop a new product range they could gain some royalty or other payments once the activity becomes profitable. These can be recycled into the network to provide more extended services to the community.

Those who question the ability of industrial workers and community groups to develop new products in this fashion could be reminded of the remarkable plan for socially useful production by the workers at Lucas Aerospace in 1976. Faced with structural unemployment they proposed over 150 socially useful products which in the long term would conserve energy and material and provide socially useful work. In a sad reflection on our institutions, several of the products proposed are now being manufactured in West Germany, Japan and elsewhere, but not in Britain.

The technology networks should provide mechanisms in which the community can identify its own needs and use its practical experience and knowledge to begin to address these. For academics it will provide an opportunity to serve the community which provides for them.

The Centre for Alternative Industrial and Technological Systems (CAITS) originally located at the North-East London Polytechnic and now at the North London Polytechnic, and the unit for the development of appropriate products (UDAP) at Coventry (Lanchester) Polytechnic, both institutions set up by the Lucas workers, indicate that these organizations also provide fascinating students' projects and that students working on them display much higher levels of motivation than on some artificially contrived project – provided simply to meet the project requirement.

The proposal for technology networks in London has already attracted international attention and a conference in May, hosted jointly by the GLEB, the CAITS and the north and east network attracted academics and community workers from Denmark, Holland and the United States and showed clearly that an international requirement exists for facilities of the kind proposed in London. Underlying the whole philosophy of the networks is a belief that the most important asset in solving London's problems, is the skill and ingenuity of its people. The networks are one way of unlocking that.

The author is director of the technology division at the Greater London Enterprise Board, a professor at the Technical University of Denmark and an Alternative Nobel Prize winner.

When academic success does not equal employability

by Bill Kirkman

It is perfectly possible to graduate successfully from a university without developing any skill in the use of figures, any ability of communicate ideas to other people or any capacity for working collaboratively with other people in groups. Anyone who did emerge from a university in that condition would face serious employment problems. It is fair to add, of course, that such a person would be a pretty rare bird. Few people in practice choose to live so narrowly or single-mindedly during their student career.

The fact, however, that it would be possible to succeed in higher education without developing these particular skills and attributes underlines a most significant point, namely that the things which make for academic success are not synonymous with the qualities that make for employability. The corollary of that is that the skills which are sought by employers do not coincide exactly with academic subjects, and for many jobs, the subject of study is of only marginal significance though of course the quality of study and the achievement in it are of great importance.

In the past two or three years the demand for graduates has tightened, as an inevitable reflexion of the overall problem of high unemployment. The fact that the market is tighter and more selective has caused employers to lay much more emphasis than in the past on certain basic skills and aptitudes, and to seek evidence of them in the applicants for the jobs which they have on offer. Some of these skills are sought by pretty well all employers, and their possession can be said to be virtually essential.

A list of such widely required skills would certainly include numeracy, in the sense of ability to understand and work with numerical data; the ability to communicate effectively with other people. "Any discipline, but must be numerate" as a feature in a job description is now commonplace.

These basic skills are within reach of almost any graduate although many may have doubts about their own ability in particular respects. They can certainly be developed during the course of a university career not only by careful choice of options within a subject but also by extra-mural activities. Any participation in a student committee is likely to involve effective collaboration with other people.

These basic skills are not of course the only ones which are relevant to employers in today's conditions. Some familiarity with computers is definitely an asset, and for many jobs a *sine qua non*. Again, it should not be difficult to acquire. The use of computers is certainly not restricted now to science subjects and in Cambridge, for example, there are excellent short courses in computing for arts students.

Another valuable asset for many jobs, particularly as industry and commerce become more and more international, in a measure of competence in a foreign language and there are plenty of opportunities for students to acquire it.

Obviously no one student is likely to be able to develop all these skills (though numeracy, communication skills and the ability to work with others in groups could be seen as the "three Rs" of modern society). What is at least as important as specific skills, is the possession of certain attitudes, and in particular a realistic attitude to change.

Gone are the days when one could expect to do the same job with the same employer for 40 years. Even the most confident forecasters are unlikely to commit themselves to precise predictions about the types of work which will be common in 10 years time, or about the skills which will be needed to carry them out.

The safest prediction is that many of them will be different from the jobs and skills commonly needed today. The rapidity of technological change is a major factor affecting the shape and nature of employment and the ability not simply to recognize this but to cope with it is perhaps the most important attribute for anyone emerging from high education today.

Three or four years in a university or polytechnic, with the opportunities which such an experience offers for study in depth, for exploring new ideas and for testing one's abilities in different directions, undoubtedly gives to the graduate an enormous advantage in the present competitive world. That is not to say that he or she will make without difficulty the transition from study to employment. It is to say that he or she will be in a position to develop the skills needed for such a successful transition.

The opportunities are there. What is needed above all is an appreciation of the circumstances which make make it important to use opportunities realistically.

Careers services are certainly conscious of this, and the emphasis in our work has been changing in consequence. We are constantly encouraging people to use the varied facilities available to them, to take part in activities, to follow appropriate courses (such as the Insight courses run in many universities as part of the programme developed by the Careers Research and Advisory Centre which is designed to provide students with a distilled but realistic appreciation of management problems).

The need to acquire and develop skills is in essence the need to build for oneself a base from which one can move in whatever direction is necessary to cope with changing conditions and circumstances.

The author is head of the Cambridge University Careers Service.

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Dancing with the devil

continued from page 23

technology industries but in the small company sector where new processes and equipment are being explored. They often want all-round aptitude – someone who can set up, run and reconfigure a programme; use Prestel-style viewdata; wordprocess and use the peripheral packages and, maybe, be able to lift the lid of the computer to see what is wrong when it goes down!

Some of the "skill bundles" being required in the market-place are very broad indeed. A typical case might be someone who can run a multi-function network; retrieve, edit and format information; have good English clerical accuracy but also make it all into instantly "pretty" data, using high resolution graphics, because of the nature of the business. All this kind of activity in the "micro" market and within electronics tends to be far removed from the traditional "computer studies course" and one needs to keep up with the demands of 16 bit micros, networks, new generation languages and so on.

This is where the aspect of open access can be all important. It allows the place to be used by all kinds of people who want or need access to the equipment and space. If the centre, as it does, has a microcomputer maintenance section, then local employers will see young people mending complex machines. If they want to put up pages on Prestel, then young trainees will show them how it is done. All this makes the centre a practical demonstration of skills in a way that the normal labour channels cannot. This is particularly important for young people without formal qualifications.

Perhaps more important than this though, is that open access turns the great wealth of local intelligence into potential services and products. In an era of structural unemployment this has to be one possible tactic to make learning/training and employment a sensible equation! Certainly at Notting Dale we have floated four employing companies out, in microcomputer maintenance, software development, aids for the disabled and polyphonic synthesisers. The young employees have to pick up the truths of working together, organization, economies and quality control. We have to learn some of the truths of business organization and capital management.

Perhaps even more critically, we have had to configure new relationships between local authorities, private interests, our own earnings and traditional sources of venture capital. It is clear that these new models offer some hope for community enterprise and employment.

Much vocational argument its uncomfortably in the derelict areas of Britain. A *Road to Wigan Pier* tour of Britain can only underline this! However, I would argue that this technology centre model, based on firm notions of learning, local relevance, open access and enterprise, can offer a tactic to people grappling with unemployment. It can also offer alternative thoughts to the political, social and economic problems of which this technology is part.

The author is director of the Notting Dale Urban Studies Centre, west London.

NOTICE BOARD

Grants

Universities

Open University

Mr A. Horton, £74,50n from Milton Keynes Development Corporation (passive solar gain); £15,000 from the Gatsby Charitable Foundation for a feasibility study by the Centre for Continuing Education (residential care training); Dr C. Cooke, £9,500 from the Graham Foundation for Advanced Study in the Fine Arts ("colouring" of greys); Dr C. Morgan and Dr V. Hall, £74,208 from the Leverhulme Trust (changing role of secondary heads in England and Wales); Professor I. Gass (in conjunction with Professor F. J. Vine of East Anglia), £10,000 from the Royal Society (Teaodos ophiolite project).

Bristol

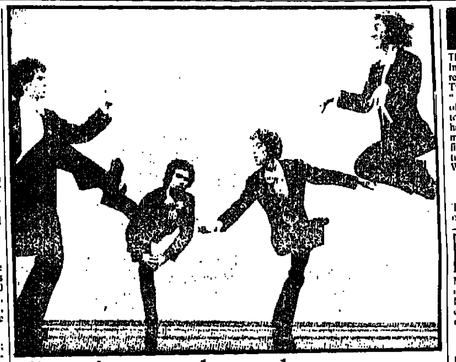
Dr M. Green, £39,900 (metal and carbon multiple bonds); Professor A. E. Walsby, £33,628 (gas vesicle protein); Dr S. A. R. Knox, £24,950 (metallothelim chemistry); Dr C. J. Wormald, £34,500 (hydrocarbons and CO2); Dr J. Gerratt, £13,494 (valence bond studies); all from the SERC.

Dr R. B. Barlow, £56,656 (muscarinic receptors); Dr D. M. Lewis, £36,988 (muscles and innervation); Dr J. B. Wakerley, £31,592 (milk-ejection reflex), all from the MRC; Professor P. J. Bourne, £99,094 (gut immune response); Dr G. Clarke and Dr J. B. Wakerley, £35,725 (electrophysiology of the hypothalamus).

Professor F. J. Bourne and Dr T. J. Newby, £24,229 from (monoclonal antibodies) all from the ARC.

Dr D. S. Berridge and Mr S. L. Millham, £66,980 (fostering breakdown); Dr E. J. Robinson, £8,610 (verbal communication); Dr D. A. Egginton, £22,197 (corporate social accounting); Professor M. Stewart, £20,000 (voluntary sector in leisure); Ms A. C. Macleod, £18,800 (child care proceedings); Mr A. Osborn, £16,470 (childhood separation), all from the SSRC.

Mr P. Hillyard, £36,000 from the Department of the Environment (private rented housing in Northern Ireland); Dr J. P. W. Webber, £27,243 from the Ministry of Defence (stress concentrations in damaged CFRP); Professor L. F. Crabtree, £20,003 from the Ministry of Defence (aerodynamic and thermal loads); Dr S. Fenton, £13,500 from the Commission for Racial Equality (health and social services and ethnic minorities); Professor M. Stewart, £10,925 from the London Borough of Hackney (decentralization in local government); Dr C. A. Pennock, £10,280 from the South Western Regional Health Authority (keratan sulphate metabolism); Professor I. A. Silver, £45,493 from the University of Pennsylvania (stroke and shock); Dr M. Green, £35,000 from the American Chemical Society (metallic ring formation); Mr W. Barker, DG993,000 from the Bernard van Leer Foundation (Parent and Health Visitor Child Development Project); Dr J. C. Kyle, DG20,000 from the European Cultural Foundation (European Sign Language Research Centre); Professor A. J. F. Webster, £60,000 from the Home of Rest for Horses (air hygiene in stables); Dr C. J. Elson, £54,071 from Arthritis and Rheumatism Council (immunological abnormalities and r/s symptoms); Professor D. L. Easty, £31,578 from the Wellcome Trust (herpes and keratoconjunctivitis); Professor N. R. Butler, £24,125 from International Centre for Child Studies (running of centre); Dr A. B. Tullo, £18,188 from the Wellcome Trust (eye disease and herpes); Mr C. Morris, £41,000 from Data Type Terminals Ltd (graphics workstation).



Keeping up the style

Contemporary Israeli dance has moved along two converging streams, drawings sustenance from traditional ethnic styles, while keeping pace with more recent experiments. Native choreographers like Dony Reiter Soffer are now internationally recognized, while some of the most dramatic productions have used Israeli dancers like the Bat-Dor Company (illustrated) and overseas choreographers. Pictured are Bat-Dor productions of Paul Taylor's *Cloven Kingdom* (above) and Dony Reiter Soffer's *Notturni ed Alba*. Pictures courtesy of the Jerusalem review of arts and letters, *Ariel*.



Recent publications

The latest – No 1n – in the University of London Institute of Education Bedford Way Papers is the report of the Curriculum Review Unit Initial Training Panel on "*Teaching Political Literacy*". "... you should extend your catalogue of some of the fundamental ingredients of political literacy to include a few basic realities of which all societies have to recognize, be they capitalist or socialist or mixed or Marxist" – Sir Keith Joseph in 1975. To find out how the prospects lie, contact Information Officer, ULIE, 20 Bedford Way, London WC1H 0AL Tel 01-636 1500.

• • •

Two new Schools Council reports were published on June 24. "*Supporting children's bilingualism*", written by David Houlton and Richard Willey, examines policy issues for local authorities and primary school, while Jan Harding's "*Switched off; the science education of girls*", looks at one of the longest-standing points of contention in curriculum development. Contact Longman Resources Unit at 33-35 Tanner Row, York, YO1 1JP.

• • •

Professor Maurice Craft and Dr Madeleine Atkins of Nottingham University faculty of education have prepared a report for the Swann Committee on "*Training Teachers of Ethnic Minority Community Languages*". For copies contact Christine H. Shinn, Education Secretary, Faculty of Education, University of Nottingham, NG7 2RD or ring (0602) 56101

Chairs

Mr William C. Shaw, at present senior lecturer in orthodontics at the Welsh National School of Medicine, has been appointed to the newly established chair of orthodontics and dentofacial development at the University of Manchester.

• • •

Dr Paul M. Braiden, senior lecturer in the department of engineering at the University of Durham, has been appointed to the Sir James Woodeson Chair of Production Engineering at the University of Newcastle upon Tyne. The chair was endowed by Northern Engineering Industries Ltd through the University of Newcastle upon Tyne Development Trust.

• • •

Professor Gordon Roderick, at present Professor of Adult Education and director of the division of continuing education at the University of Sheffield, has been appointed to the chair in adult and continuing education at the University College, Swansea.

Honorary degrees



Mr Jo Grimond

Buckinghom

Following the installation of the Chancellor, Lord Hailsham of Marylebone, on July 23, honorary degrees will be conferred on The Rt Hon Lord Beloff of Wolvercote (DLitt), Sir Ralph Bateman KBE, His Honour Professor Francesco Forte, Sir John Kendrew (all DSc) and The Rt Hon Joseph Grimond (LLD)



Lord Beloff

Appointments

Universities

Bristol

Readerships: Dr S. A. R. Knox (inorganic chemistry); Dr A. Beckett (botany); Dr J. L. Burton (dermatology); Dr W. J. Plumbridge (mechanical engineering).

Manchester

Senior Lecturerships: Dr J. F. W. Deakin (psychiatry); Dr J. H. Tattan (psychiatry).

Buckingham

Readership: Dr David Smith (life sciences – visiting).

Senior lecturerships: Mr Jonathan Robinson (law); Mr David Greenaway (economics).

Forthcoming Events

The next History Workshop London seminar will have Rodney Mace and Alex Potts speaking on "Imperialism, Nationalism and Architecture in Britain, 1880–1914" at the Black Horse pub, Rathbone Place, W1, at 7.30pm on July 4. Admission free.

Open University programmes July 2 to Friday 8 July

Saturday July 2

BBC2

6.35 Evolution. Adaptive Radiation of the Silver Sword Alliance (S364: prog 8).

6.50* Politics, People and Administration. The Claimant (D356: prog 2).

7.15 Quantum Theory and Atomic Structure. Measurement (SM351: prog 7).

7.40 Mathematical Models and Methods. Eigen-values and Eigen-vectors (MST206: prog 21).

8.05 Regional Income and Economic Policy. Economic Forecasting (D206: prog 8).

8.30* Arts Foundation Course. Sacred Places (A101: prog 19).

8.55 Technology Foundation Course. First in the Field (T101: prog 13).

9.20 Society, Welfare and the Media (U202: prog 2).

9.45 Elements of Music. Harmonic Analysis, 1 (A241: prog 3).

10.10 Philosophical Problems. External World (A313: prog 8).

10.35 Seventeenth Century England: a changing culture. Experimental Philosophy (A303: prog 10).

11.00* Purpose and Planning in the Curriculum. Hansel and Gretel: What does the Tale Tell? (E204: prog 11).

11.00* Fundamentals of Human Geography. Space in the City (D204: prog 10).

12.10* An Introduction to Sociology. Housing in Birmingham. 1 (D207: prog 7).

12.40* Mathematics and the School. Knottley Fields, Part 1: My Door is Always Open (E323: prog 3).

13.05 Introduction to Pure Mathematics. The Derivative (M203: prog 10).

13.30* Mathematics Across the Curriculum. Chewing it Over (PME316: prog 3).

13.55* The Nineteenth Century Novel and Its Legacy. Hardy: Wessex (A312: prog 9).

14.20 Decision Making in Britain. The Miners' Wage Claim: the Industry and its Markets (D208: prog 14).

14.45* Modern Art & Modernism: Manet to Pollock. Cézanne and the Revolution: Karl Werckmeister (A315: prog 2).

15.10* The Development of Instruments and Their Music. String Quartets: Style & Texture (A304: prog 9).

BBC1

5.50* Risk. High Risk Adaption (U201: prog 7).

6.05 The Earth's Physical Resources. Mining: a Case Study in Ireland, Part 3: The Wider Implications (S266: prog 7).

7.10* Telecommunication Systems. Telephone Systems: A Case Study (T321: prog 10).

7.40 Biochemistry and Molecular Biology. Ribosome (S322: prog 10).

RADIO 3(VHF)

6.05 Schooling and Society. Ideologies of School Music (E202: prog 4).

7.10* Arts Foundation Course. Religious Experience (A101: prog 19).

7.30* Science Foundation Course. The Question Why (S101: prog 9).

23.20* An in Italy, 1480–1580. Cellini and the Decorative Arts (A307: prog 6).

23.40* Computing and Computers. Systems Analysis Interview (407) (M252: prog 3

Sunday July 3

BBC2

6.35 Images and Information. Viewing the Invisible (ST281: prog 8).

6.55* Society, War and the Media (U202: prog 2).

7.10* Systems Behaviour. All Change for System X (T241: prog 5).

7.40 Systems Performance: Human Factors and Systems Failures. Systems Interactions (T/D342: prog 8).

8.50* Conflict in the Family. The Professional Network (P253: prog 6).

8.50* Science Foundation Course. Variations on a Theme: Sexual Adaptions (S101: prog 18).

8.55* Social Sciences Foundation Course. Social Integration 1: Children's TV (D102: prog 19).

9.30 Maths Foundation Course. Relations: Ringing the Changes (M101: prog 17).

9.40 Open Forum –80. Looking Forward to Your Summer School.

10.10 Engineering Mechanics: Solids. Structures (T232: prog 5).

10.35 The Earth: Structure, Composition and Evolution. Heat Through the Lithosphere (S237: prog 10).

11.00 Oceanography. Migratory Patterns of the Plaice (S334: prog 10).

11.25 Mass Communication and Society. Designing (DE353: prog 9).

11.50 Biology: Form and Function. Mammals in Water (S202: prog 20).

12.15 Geology. Sedimentary Processes (S236: prog 10).

12.40 Biology: Brain and Behaviour. Drinking Motivation (SD286: prog 10).

13.05 Engineering Materials: an introduction A Cut Engineering Materials (T252: prog 8).

BBC1

6.25 The Development of Instruments and their Music. The Development of the Piano (A304: prog 10).

6.50* Inorganic Chemistry: concepts and case studies. Semi-Conductors and the Sun (S247: prog 7).

7.15 Computers and Computing Computing: the Systems Analyst (M252: prog 9).

7.40* Science and Belief: from Darwin to Einstein. Scientists Remember Germany, 1918–1945 (A/381: prog 7).

8.05 Understanding Space and Time. An Isolated Fast (S354: prog 11).

8.30 The Nature of Chemistry. Photoelectron Spectroscopy (S304: prog 20).

RADIO 3(VHF)

6.05* Personality and Learning. The Two Worlds (E201: prog 19).

7.15* Social Psychology. Analysing the Analyses 1 (D305: prog 10).

7.35* Technology Foundation Course After the Harvest (T101: prog 13).

RADIO 4(VHF)

6.05 Modern Modernism: Manet to Pollock. Heathfield: John Willet (A315: prog 20).

7.15 The Nineteenth Century Novel and its Legacy. Thomas Hardy: Poetry (A312:10)

7.35 Management and the School Pastoral Care (E323: prog 6).

Monday July 4

BBC2

6.05 The Control of Education in Britain. RE – A Suitable Case for the Law? (E222: prog 5).

6.30 An Introduction to Sociology. Housing in Birmingham, 2 (D207: prog 8).

6.55* Maths Foundation Course. Relations. Ringing the Changes (M101: prog 17).

7.20* Technology Foundation Course First in the Field (T101: prog 13).

7.45 The Enlightenment. The Noble Savage (A204 prog 10).

17.10 Curriculum in Action What Did I Do? (P234: prog 5).

20.30 Surface and Sedimentary Processes: Case Studies in Earth Science (S335: prog 8).

22.55 Social Work: Community Work and Society. Rathbone Street Change (DE20b: prog 8)

RADIO 3(VHF)

6.15 Twentieth Century Poetry. Duino Elegies (A306: prog 10).

6.35* Contemporary Issues in Education. Community in Tilbury (E203: prog 14).

23.30 Arts Foundation Course. Rudolf Otto on the Rational and the Non-Rational in Religion (A101: prog 20).

23.50* Technology Foundation Course. After the Harvest (T101: prog 13).

RADIO 4(VHF)

23.20* The Nineteenth Century Novel and Its Legacy. Thomas Hardy's Poetry (A312: prog 10).

23.50 Personality and Learning. How to Survive (E201 prog 20).

Tuesday July 5

BBC2

6.05 Modern Art and Modernism. Manet to Pollock. Authority, Repression and Representation II. Baudoin (A315: prog 19).

6.30* Oceanography. Migratory Patterns of the Plaice (S334: prog 10).

6.55* Biology: form and function Mammals in Water (S202: prog 20).

7.20 Science Foundation Course. Rats and Super-Rats, Grasses and Super-Grasses (S101: prog 19).

7.45 World Politics The Rise and Fall of Britain's Sanctions Policy, 3: The UN and the Commonwealth (D233: prog 11).

17.10 Management and the School. Knottley Fields, Part 2: Whose Timetable? (E323: prog 4).

23.30 Graphs, Networks and Design Mechanical Manipulation (TM361: prog 10).

23.55* National Income and Economic policy. Economic Forecasting (D204: prog 6).

RADIO 3(VHF).

6.15 The Control of Education in Britain RE – A Suitable Case for the Law? (E222: prog 8).

6.35* Man's Religious Quest. A Christian Testimony (AD288: prog 15).

RADIO 4(VHF)

23.30 Seventeenth Century England: A Changing Culture Milton's Readers (A303: prog 10)

23.50 Open Forum – 20 Student Information Programme

Wednesday July 6

BBC2

6.05* Seventeenth Century England: a Changing Culture. Experimental Philosophy (A303: prog 10)

6.55* Geology. Sedimentary Processes (S236: prog 10).

7.20 Arts Foundation Course. Images of the Holy (A101: prog 20).

7.45* The Earth's Physical Resources. Mining: a Case Study in Ireland, Part 3: The Wider Implications (S266: prog 7).

12.30 The Pre-School Child. Give and Take (P012: prog 11).

12.55 Childhood 5–11: Family Matters (P013: prog 13).

17.10 Man's Religious Quest. Christian Community in Country Class (AD288 prog 8).

23.20* Systems Performance: human factors and systems failures. Systems Interactions (TD342: prog 8).

23.55* Engineering Materials: an Introduction A Cut Above (T252: prog 8).

BBC1

23.20 Popular Culture 'Realin' and a'reelin' (U203 prog 13).

RADIO 3(VHF)

23.20 Social Sciences Foundation Course. Language and Authority (D102: prog 10).

23.40* Schooling and Society. Ideology of School Music (E202: prog 4)

RADIO 4(VHF)

23.20 The Enlightenment. Voltaire and the Calas Affair (A204: prog 20).

23.50 English Urban History. 1500–1700. Communication and the National Political Content (A322: prog 5).

Thursday July 7

BBC2

6.05* Introduction to Pure Mathematics. The Derivative (M203: prog 18).

6.30 Modelling in Mathematics Natural Numbers (MM261 prog 6).

6.55* Biology, Health and Behaviour Drinking Motivation (SD286: prog 11).

7.20 Social Sciences Foundation Course Social Integration 2: Family Comedy (D102: prog 20)

7.45* Greece 478–336 bc Land and Sea (A285: prog 11)

17.10 Schooling and Society. Rhondda I: Educating for Escape (E362: prog 7).

23.30* Images and Information Viewing the Invisible (ST291: prog 8).

23.55* Decision Making in Britain The Miners Wage Claim. The Industry and its Markets (D208 prog 10).

RADIO 3(VHF)

6.15 The Earth's Physical Resources. Economics of Minerals (S266 prog 2).

8.56 Rome Engineering: the Work of Agrippa (A293 prog 10).

23.20 Maths Foundation Course. Foundation Maths–10 (M100): prog 10).

23.40* Modern Art and Modernism. Manet to Pollock Battleship Island. John Willet (A315 prog 20).

RADIO 4(VHF)

23.30* Twentieth Century Poetry. Duino Elegies (A306 prog 10)

23.50 Contemporary Issues in Education Education Bulletin – 7 (E206: prog 22)

Friday July 8

BBC2

6.05* Mathematical Models and Methods Eigen values and Eigen vectors (MST204: prog 21)

6.30* The Earth: Structure, Composition and Evolution Heat Through the Lithosphere (S237: prog 8).

6.55* Engineering Mechanics Solids. Structures (T232: prog 6).

7.20* Quantum Theory and Atomic Structure Measurement (SM351: prog 7).

7.45* Social Sciences Foundation Course. Language and Communication and Society. Designing (DE353: prog 10).

17.10 Mass Communication and Society. Designing (DE353: prog 9).

17.35 Weekend Outlook – 19

RADIO 3(VHF)

6.10* The Control of Education in Britain. RE – A Suitable Case for the Law? (E222: prog 10).

6.35* Seventeenth Century England: A Changing Culture Milton's Readers (A303: prog 10)

23.20* The Control of Education in Britain. RE – A Suitable Case for the Law? (E222: prog 11).

23.40 Popular Culture. Subculture Organization (The Mods) and ... (U203: prog 5 and 6).

24.00 The Mid-Sixties Part 1

*repeated programmes

CLASSIFIED ADVERTISEMENTS

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Universities

THE UNIVERSITY OF AUCKLAND
New Zealand

TOWN PLANNING – CHAIR CARRYING WITH IT THE HEADSHIP OF THE DEPARTMENT
Closing date: 9th September, 1983

It is expected that the person appointed to the Chair will provide academic and professional leadership, exert a strong influence on the further development of appropriate teaching programmes, stimulate research activity in the department and strengthen links between the University, profession and community. Applicants should have advanced academic qualifications in urban and regional planning, and desirably extensive research and/or teaching experience

LAW – ASSOCIATE-PROFESSORSHIP
Closing date: 5th August, 1983

The University wishes to make an appointment in the general field of Commercial Law and it is hoped that the person appointed will be able to provide leadership in that area. Applicants should have a higher degree, previous experience in one or more or research, teaching and professional practice, is essential

MANAGEMENT STUDIES – LECTURESHIP
Closing date: 12th August, 1983

Applicants should have a higher degree and have teaching experience and research interests in one or more of the following fields: Operations Management/ Management Sciences; Marketing/International Business, Innovation/Research and Development, Business Policy/Strategic Management.

MUSIC – LECTURESHIP
Closing date: 19th August, 1983

Applicants should be composers of standing who are active in a variety of musical areas and are aware of contemporary practice in composition. They should be proficient, as round musicians with previous teaching experience and able to contribute to the wider more basic areas of coursework such as harmony, keyboard skills, history of music.

MUSIC – HALF-TIME TEACHER OF SINGING (THREE YEAR TERM)
Closing date: 19th August, 1983

The person appointed will be required to teach singing students enrolled for University courses, to provide practical assistance with degree and diploma examinations and to take part in departmental extra-curricular activities for the development of music within the University and the Community. An appointment will be made for *three years with the possibility of re-appointment for a further period.*

Commencing salaries will be established within the appropriate scale

Professors	NZ$41,397–$52,482 per annum;
Associate-Professors	NZ$37,281–$46,911 per annum;
Lecturers	NZ$21,665–$29,694 per annum.

Conditions of Appointment and Method of Application are available from the Assistant Registrar (Academic Appointments), University of Auckland, Private Bag, Auckland, New Zealand, or from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

Applications, in accordance with Method of Application should be forwarded as soon as possible but not later than the closing dates stated.

THE UNIVERSITY OF PAPUA NEW GUINEA

Applications are invited from suitably qualified persons for the following posts:

DIRECTOR
Department of Extension Studies

Applicants should have appropriately high academic qualifications preferably in Social Sciences or Humanities and experience in Distance and Adult Education The appointment will be made at Senior Lecturer, Associate Professor or Professor level, depending on qualifications and experience. Position to be filled by 23rd January, 1984 Closing date for applications 31st August, 1983

LECTURER/SENIOR TUTOR/TUTOR: (Science/Mathematics)

Applicants should have genuinely qualifications in Science and Mathematics. The appointee will be required to teach students enrolled for First Year Science and Mathematics, and may be required to write, revise and co-ordinate correspondence courses at those levels. Position to be filled by 21st November, 1983. Closing date for applications 31st August, 1983

SENIOR TECHNICAL OFFICER
Department of Chemistry

Applicants should hold a higher technical qualification and have had extensive laboratory experience. Duties will include the supervision of technical staff in the preparation of laboratories for undergraduate practical classes. The successful candidate will be responsible for the in service training of National Technical Staff, and will be required to assist the Chief Technician in the ordering of chemicals and Laboratory equipment. There is a possibility of becoming involved in research projects with *academic staff within the Department. Ability to maintain and repair* general laboratory equipment would be an advantage. Closing date for applications 31st July, 1983

SALARY SCALES:

Tutor	K13,760 pa plus gratuity
Lecturer	K18,020 pa plus gratuity
Senior Tutor	K16,020 pa plus gratuity
Senior Technical Officer	K16,645 pa plus gratuity
Senior Lecturer	K19,720 pa plus gratuity
Associate Professor	K21,720 pa plus gratuity
Professor	K22,620 pa plus gratuity
	(£1 Sterling = K1.3620)

Three year contract, gratuity, support for approved research, overseas accommodation, family passages, baggage allowance, leave fares after 18 months service, education subsidies. Salary continuation scheme to cover extended illness or disability. Applicants who wish to arrange assessment from their home institutions will be welcome. Detailed applications (two copies) including a curriculum vitae, a recent small photograph and naming three referees should be sent to the Assistant Secretary, (Staffing) University of Papua New Guinea, PO Box 320 UNIVERSITY.

Applicants resident in the UK should also send one copy to the Overseas Educational Appointments Department, The British Council, 10/31 Tottenham Court Road, London W1P 0DT quoting reference U113 – 115.83 Further details are available from either address.

university college of swansea

Fixed-Term Lecturer

Applications are invited for the vacancy of Fixed-Term Lecturer in Development Studies, to join a multidisciplinary group of social scientists in the *Centre for Development* Studies. Applicants should be sociologists with research and/or teaching interests in the theory and practice of social work in developing countries. The successful candidate will be expected to contribute to the Centre's teaching on one-year Masters and Diploma postgraduate courses in this area. Contribution to one three-month short course per year will also be expected

The appointment, which will be for five years from 1 October, 1983, renewable thereafter if funds allow, will be on the scale £7,190–£14,125 per annum, together with USS/USDPS benefits. Further particulars and application forms (2 copies) may be obtained from the Personnel Office, University College of Swansea, Singleton Park, Swansea SA2 8PP, to which office they should be returned by *Friday, 15 July, 1983.*

University of Strathclyde
DEPARTMENT OF DYNAMICS AND CONTROL

Applications are invited for a

Postdoctoral Fellowship

to work on the Adaptive Control of Vibrations in Rotating Machinery under the direction of Professor C. R. Burrows

Applicants should have a proven research record in either rotor-bearing vibrations or the applications of control theory and an interest in combining theoretical and experimental work. Experience of the application of magnetic bearings would be advantageous as would relevant industrial experience.

The project is supported by the Science and Engineering Research Council and will last for three years; the commencing salary will be up to £A,975 pa (depending upon the age and experience of the successful applicant), on Research Range 1A (£7,190–£11,615 pa). It is hoped to start the project on 1st October 1983.

Applications (two copies), including a curriculum vitae and the names and addresses of *three referees*, and quoting reference R2883 should be lodged by 18th July 1983 with Professor C. R. Burrows, Department of Dynamics and Control, University of Strathclyde, James Weir Building, Glasgow G1 1XJ, who will supply further particulars on request.

UNIVERSITY OF STRATHCLYDE
DEPARTMENT OF DYNAMICS AND CONTROL

Applications are invited for a:

Postdoctoral Fellowship

to work on Multi-directional Controlled Isolation of Helicopter Structures under the direction of *Professor G. R. Burrows*

Applicants should have a proven research record in either vibrations or control and an interest in combining theoretical and experimental work. Industrial experience would be an added advantage

The project is supported by the Royal Aircraft Establishment and is expected to last for three years; commencing salary will be up to £9,875 (depending upon the age and experience of the successful applicant), on Research Range 1A (£7,190–£11,615 pa) It is hoped to start the project on 1st September, 1983

Applications (two copies), including a curriculum vitae and the names and addresses of three referees, and quoting reference R2183 should be lodged by 18th July, 1983 with Professor C. R. Burrows, Department of Dynamics and Control, University of Strathclyde, James Weir Building, Glasgow G1 1XJ, who will supply further particulars on request.

AUSTRALIA

Applications are invited for the following posts, for which applications close on the dates shown. SALARIES (unless otherwise stated) are as follows: Professor $A46,977; Postdoctoral Fellow $A19,333–$A22,148; Research Fellow $A22,430–$A28,467; Lecturer $A22,430–$A28,467; Tutor $A15,943–$A18,770. Further details and application *procedure may be obtained from The* Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF unless otherwise stated.

Griffith University, Brisbane
LECTURER (FRACTIONAL) SCIENCE, TECHNOLOGY AND SOCIETY
Miscellaneous

A 50% fractional continuing appointment is available in the area of Science, Technology and Society (STS). The STS program aims presently covers a broad range of studies of the social, historical, economic, political and philosophical relations of science and technology

It is intended that the appointee's teaching duties will include contributions to undergraduate courses and the coursework MSc programme, and an ability to contribute in the areas of economic studies or history of science will be an advantage in this connection. Collaboration in group and interdisciplinary research projects is also encouraged.

It is anticipated that the appointee will commence duties early in 1984. Salary will be 50% at a point in the range $A22,430–$A29,467 per annum.
23 July 1983.

La Trobe University Melbourne
LECTURERS – TENURABLE (TWO POSITIONS)
Department of Legal Studies
School of Social Sciences

The Legal Studies Department is in the School of Social Sciences and offers courses leading to a BA, rather than a qualification to practise law. It also has MA and PhD students. The curriculum and research emphasis is on the role of law in society

The successful applicants must be able to teach and do research in at least one of the following areas: (i) the structure and workflow in the functioning and scrutiny of government, with special reference to Australia and other federal systems, (ii) law, welfare administration and public policy, with special reference to the provision of social services, (iii) the economic analysis of law. In general, applicants must either have a good law degree and proven interest in other fields of social study or a good law degree in another discipline such as economics or social sciences others otherwise willing law. In the case of the third field, a good economics degree will be the minimum requirement. Relevant professional experience and tertiary teaching experience will also be taken into account. The successful applicant should take up the position early in 1984.
12 August 1983

The University of New England
LECTURER IN PHILOSOPHY

Applicants should have appropriate formal qualifications for teaching Philosophy, and further qualifications for teaching Philosophy of Social Science. They should indicate their areas of specialisation and experience.

Information relating to Professor R. L. Franklin, Department of Philosophy, telephone (067) 73 2305

The appointment will be in the permanent staff but the University reserves the right to make the appointment probationary where it considers this appropriate

Other conditions include superannuation, assistance with travel and removal expenses and with buying or building a house in Armidale

Applications, including the names and addresses of three referees and stating position number 456, should be sent to the Staff Officer, University of New England, Armidale, NSW 2351, Australia, prior to the closing date. Applicants should forward a copy of this advertisement to their referees and ask them to send their reports direct to the Staff Officer, Mr R. O. Turner marking their envelopes 'Private and Confidential' and quoting the position, number, before the above closing date so as to expedite the appointment process
26 August 1983.

The University of Adelaide
TUTOR IN MECHANICAL ENGINEERING (T3759)

To assist in design office and other tutorials, the organisation and supervision of laboratory classes, the assessment of student assignments and the preparation of teaching material. Experience in computer programming would be an advantage.

The Department has research programmes in thermal energy systems, acoustics and noise control, fluid mechanics, machine dynamics and control, robotics and the rehabilitation of the disabled.

Applicants should hold a good honours degree and preferably have some experience of engineering practice; preference will be given to those wishing to enrol for a higher degree. Applications should be available to take up appointments in 1983; the position is available for three to six years, depending upon qualifications and experience, is open to both men and women.

Further details concerning the position may be obtained from the Chairman of the Department or Professor R. E. Luxton.

Further information about the general conditions of all appointments, may be obtained from the Personnel Manager of the University.

Applications, in duplicate, quoting reference number and giving full personal particulars (including citizenship), details of academic qualifications and names and addresses of three referees, should be sent to the Personnel Manager of the University of Adelaide, GPO Box 498, Adelaide, South Australia 5001 (Telex: UNIVAD AA 83141).

The University reserves the right not to make an appointment or to appoint by invitation.
29 July 1983.

James Cook University of North Queensland
PROFESSOR OF EDUCATION AND HEAD OF THE SCHOOL OF EDUCATION

Following the amalgamation of the former Townsville College of Advanced Education with the University, the Council has established a new School of Education with effect from 1 July 1983. The School will consist of three new Departments, each headed normally by a Professor. In addition, there will be a professorial Head of School who will not also head a Department. Applications are now invited for the newly created position of Professor of Education and Head of the School of Education.

The School of Education will be professional school of the University with a commitment to teaching, learning and research about education and schooling processes and to the interdisciplinary study of education as a social institution. It will assume responsibility for the teaching and research activities of the present Unit-only Department of Education and the education courses of the former College. In particular, a major commitment of the School will be the continuation of the University's pre-service primary and secondary teacher education programs. The new situation will provide an excellent opportunity for the Head of School to consolidate and influence the direction of the teaching, research and development activities of the School and all constituent Departments.

Applicants must possess a strong background in education, which should be demonstrated by the possession of higher degree qualifications (preferably at the doctoral level), a proven record of research and publications in an appropriate area of education, successful and substantial teaching experience at either primary or secondary school levels, a commitment to teacher education and an understanding of and a sympathy with the philosophy of advanced education. In addition, applicants must be able to demonstrate the capacity to give effective leadership in the academic and administrative functions of the School.

In addition to salary, a locality allowance will be payable at the rate of $A,996 per annum for a full member with dependants (as defined) or $A248 per annum for a staff member without dependants.
29 July 1983.

The Australian National University
CHAIR OF PUBLIC POLICY

Applications are invited for appointment to *the foundation Chair of Public Policy. It is* hoped that the appointee will be able to take up duty early in 1984.

The professor will establish and co-ordinate a Graduate Program in Public Policy. The Program will offer a two-tier structure of a graduate diploma and a master's degree course

The Program will not be exclusive to any one section of the University. It will draw on the special facilities and skills available within the University and expertise from outside the University. Courses in the Program will place emphasis on an understanding of the role of government in society and the development of the analytical skills required to formulate policy proposals for change and evaluate their economic, political and social effects. The primary emphasis will be on the policy process and policy analysis rather than on public administration and organisation.

The Unit-entry scale to fill the Chair will a person who has international standing in an appropriate discipline or mix of disciplines, e.g. economics, political science, law, sociology, or the professional skills required to provide leadership to ensure that the program is of the highest academic standard

Appointment will be until retiring age (65 years), but the University may wish to negotiate a limited appointment.

Reasonable appointment expenses are paid. The appointee will be required to become a member of the Superannuation Scheme for Australian Universities (SSAU). Assistance with finding accommodation in Canberra is provided for an appointee from outside Canberra. The University reserves the right not to make an appointment or to make an appointment by invitation at any time.
31 August 1983.

BIOMETRICIAN OR PSYCHOMETRICIAN POSTDOCTORAL FELLOW GRADE I/RESEARCH FELLOW
NH & MRC Social Psychiatry Research Unit
Research School of Psychiatric Studies

The person appointed would work in one of the Unit's three areas of research: the epidemiology of neurosis; or studies of mental illness in the elderly. Study would also be expected to advise on and assist with the statistical design and analysis of other Unit projects.

Applicants should have training in mathematical statistics, a PhD and preferably have experience and publications in one or more of the following: the design and analysis of epidemiological studies, clinical research in medicine or psychiatry; or the development of psychological measures. *Experience in causal* modelling would be an advantage.

The Unit consists of five scientific staff and four research assistants and is funded by the National Health and Medical Research Council. Staff are full members of the University staff.

Appointment as Research Fellow will be for three years initially with possible extension following review, to 31 December 1988, or for a further period should the Unit be funded beyond that date. Appointment as Postdoctoral Fellow will be for two years initially and may be extended for a third year

Further information is available from Dr A. S. Henderson, Director of the Unit.

Grants are provided towards travel and removal. Assistance towards housing is given to an appointee from outside Canberra

Eligible applicants will be members of or join the Superannuation Scheme for Australian Universities. The University reserves the right not to make an appointment or to make an appointment by invitation at any time.
3 August 1983.

Universities continued

RHODES UNIVERSITY
Grahamstown, South Africa

Applications are invited from suitably qualified candidates irrespective of race, colour or creed for the following posts:

SENIOR LECTURER/LECTURER IN ACCOUNTING (2 posts *(from 1.1.84)*

SENIOR LECTURER/LECTURER IN INORGANIC AND/OR ANALYTICAL CHEMISTRY (from as soon as possible)

SENIOR LECTURER/LECTURER IN PHARMACEUTICAL CHEMISTRY (from as soon as possible)

SENIOR LECTURER/LECTURER IN PHARMACEUTICS (from 1.1.84)

SENIOR LECTURER/LECTURER IN DRAMA IN EDUCATION (from as soon as possible)

LECTURER/JUNIOR LECTURER IN ENGLISH (from 1.1.84)
(An interest in African or South African Literature may be a recommendation)

LECTURER/JUNIOR LECTURER IN PHYSICS (from as soon as possible)
(Temporary post for a period of one to two years which may be extended.

The salary scales are:

SENIOR LECTURER:	R16,557 x 936–24,045 per annum
LECTURER:	R12,657 x 780–16,557 x 936–22,173 per annum
JUNIOR LECTURER:	R9,075 x 621–10,317 x 780–14,217 per annum
	(Note: £1 = approximately R1,72c)

The initial salary in each case will be determined according to qualifications and experience. Fringe benefits include generous leave privileges, financial assistance towards the University education of children at Rhodes University and a service bonus subject to regulations. Successful applicants for permanent posts will become members of the University's pension and medical aid schemes and qualify for a housing subsidy subject to regulations.

The successful applicants for the posts of Senior Lecturer in Accounting, provided their qualifications and practical experience are acceptable to the Public Accountants' and Auditors' Board, may qualify for a subvention of salary. These posts will be attached to the University's East London Division and the successful applicants will be stationed there.

Application forms and further particulars may be obtained from the Secretary, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE.

Applications should be completed in duplicate and returned to the Universities Office by not later than 15 July 1983.

UNIVERSITY OF ZIMBABWE

Applications are invited for the following posts:

LECTURESHIP/SENIOR LECTURESHIP:
Department of Surgery

The successful applicant will be responsible for providing general surgical service in the School of Medicine, undergraduate and postgraduate teaching. Extensive *experience and an appropriate postgraduate experience is essential.*

LECTURESHIP/SENIOR LECTURESHIP
Department of Animal Science (Food Microbiology)

The successful candidate must have a degree in Microbiology and experience in the Food Industry and should be able to teach Microbiology of Farm Animals to Animal Science undergraduates and Food Microbiology to Animal Science and MSc Food Science students. He/she must be capable of co-ordinating and planning the courses, including practicals, and a programme of appropriate visits to industrial concerns. Publication of relevant research work will be an advantage.

SALARY SCALES:

(Non-Medical)	
Lecturer Grade II	Z$8,016 × 516–9,564 × $62–Z$13,428
Lecturer Grade I	Z$13,980 × 396–Z$15,564
Senior Lecturer	Z$16,000 + 480–Z$18,840
(Medical)	
Assistant Lecturer	Z$11,664 × 432–Z$13,392
Lecturer Grade II	Z$14,688 × 432–15,120 × 468–15,588 < 480–Z$17,508
Lecturer Grade I	Z$17,988 + 480–Z$18,948
Senior Lecturer	Z$20,100 × 600–22,500 > 504–Z$23,004

Appointments on above scales according to qualifications and experience.

CONDITIONS OF SERVICE: Both permanent and short-term contracts are offered. Persons who are not Zimbabwean citizens may be appointed only on a short-term contract basis with an initial contract period of two years. Short-term contracts, may, in exceptional cases, be extended.

Six copies of Applications giving full personal particulars (including full names, place and date of birth, etc), qualifications, employment and experience, present salary, date of availability, telephone numbers and names and addresses of three referees, should be submitted to the Director, Appointments and Personnel, University of Zimbabwe, PO Box MP 167, Mount Pleasant, Harare, Zimbabwe (Telex: 4–182 ZW), from whom further particulars on the above posts are available on request.

Overseas applicants should send an additional copy of their application to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, from whom further particulars are also available.

Closing date for receipt of applications is 29th July, 1983.

UNIVERSITY OF ZIMBABWE

Applications are invited for the following posts:

LECTURESHIP/SENIOR LECTURESHIP: Department of Accountancy (3 posts)

The successful candidates will be required to teach in the following fields, (i) Data Processing; (ii) Auditing; (iii) Business Law. Preference will be given to candidates with a Bachelor's or Masters degree plus a suitable professional qualification. Candidates must be qualified in any one or more of the following subjects: Data Processing, Auditing and Business Law.

LECTURESHIP/SENIOR LECTURESHIP:
Department of Adult Education

Applicants must be suitably qualified and experienced postgraduate adult educators or training specialists, in possession of an MA or PhD degree. Preference will be for those with social and/or industrial psychology or economics in their first degrees Teaching experience related to the professional preparation of adult educators at first or higher degree levels would be an advantage

Salary Scales:

Lecturers Grade II:	Z$8,016 × 516–9,564 × $62–Z$13,428
Lecturer Grade I:	Z$13,980 × 396–Z$15,564
Senior Lecturer:	Z$15,000 × 480–Z$18,840

Appointments on above scales according to qualifications and experience.

CONDITIONS OF SERVICE: Both permanent and short-term contracts are offered. Persons who are not Zimbabwean citizens may be appointed only on a short-term contract basis with an initial contract period of two years. Short-term contracts, may, in exceptional cases, be extended.

Six copies of Applications giving full personal particulars (including full names, place and date of birth, etc), qualifications, employment and experience, present salary, date of availability, telephone numbers and names and addresses of three referees, should be submitted to the Director, Appointments and Personnel, University of Zimbabwe, PO Box MP 167, Mount Pleasant, Harare, Zimbabwe (Telex: 4–182 ZW), from whom further particulars on the above posts are available on request.

Overseas applicants should send an additional copy of their application to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, from whom further particulars are also available.

Closing date for receipt of applications is 29th July, 1983.

UNIVERSITY OF STRATHCLYDE
LECTURESHIPS IN COMPUTER SCIENCE

Applications are invited for Lectureships in the Department of Computer Science Preference will be given to those with specialist skills in one of the following areas Software Engineering, Distributed Computing Systems, VLSI hardware for INES, Robotics and Man-Machine Interface.

The post involves research in the relevant area, and teaching for the Computer Science and Computer Science and Microprocessor Systems degree courses and for an MSc course in Information Technology. A candidate would normally have a good honours degree in Computer Science. Electronics or a related subject, with an appropriate postgraduate qualification or equivalent experience.

One of the posts at least will be particularly concerned with Information Technology, in which area the University is also seeking (Ref: 37-83) a lecturer in the Department of Electronic and Electrical Engineering.

Salary on the lecture scale (£7,190–£14,125 pa) with initial placing according to age, qualifications and experience. USS superannuation benefit.

Applications (two copies), including a full curriculum vitae and the names and addresses of three referees and quoting reference 36-83 should be lodged by 24th July with the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ, which will supply further details on request.

UNIVERSITY OF STRATHCLYDE
LECTURESHIP IN BIOENGINEERING

Applications are invited for a lectureship established under the UGC 'New Blood' initiative and tenable from 1st October 1983. Applicants should normally be under 35

The successful applicant will join a group drawn from the staff of the Bioengineering Unit and from Glasgow Royal Infirmary investigating the interaction between blood and membrane surfaces. The person appointed will be expected to carry out research on the physico-chemical characteristics of membranes and protein absorption films, and to have a relevant background and experience, probably in physics or physical chemistry.

Salary in the range: £7,190–£14,125 pa, depending on age, qualifications and experience. USS superannuation benefit.

Applications (two copies), including a full curriculum vitae and the names and addresses of three referees and quoting reference 35/83 should be lodged by 1 August 1983 with the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XW, which will supply further details on request.

UNIVERSITY OF STRATHCLYDE
LECTURESHIP IN PRODUCTION MANAGEMENT AND MANUFACTURING TECHNOLOGY

Applications are invited for a lectureship established under the UGC 'New Blood' initiative and tenable from 1 October 1983. Applicants should preferably be under 35.

The successful applicant will be expected initially to concentrate on personal research activities in the currently important fields in Flexible Manufacturing Systems, Robotics and Automation, and to generate industrially relevant research programmes on these topics, thus contributing to the Department's existing work. Lecturing and related duties in relevant areas of work will also be required.

Applicants should have a good honours degree in Engineering, and must have had appropriate industrial experience including applications in computing, numerical control of manufacturing equipment, and some experience in methods of manufacture of engineering products and assemblies

Salary in the range: £7,190–£14,125 pa, depending on age, qualifications and experience. USS superannuation benefit.

Applications (two copies) including a full curriculum vitae and the names and addresses of three referees and quoting 33/83 should be lodged by 1 August 1983 with the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ, which will supply further details on request.

UNIVERSITY OF STRATHCLYDE
LECTURER IN ELECTRONIC & ELECTRICAL ENGINEERING

Applications are invited for a lectureship in the Department of Electronic and Electrical Engineering, which jointly with the Department of Computer Science is providing a postgraduate course in Information Technology Systems. The successful applicant *will lecture to this* course, as well as undertaking research in and contributing to the general teaching of the Department of Electronic and Electrical Engineering. The interests of the Department include Data Communication, Signal and Image Processing and Digital Electronics, as well as Robotics, VLSI, and Data Networks.

The University is also seeking (Ref: 36/83) a lecturer in Information Technology Systems for the Department of Computer Science.

Salary on the lecturer scale (£7,190–£14,125 pa) with initial placing depending on age, qualifications and experience. USS superannuation benefit.

Applications (two copies), including a full curriculum vitae and the names and addresses of three referees and quoting reference 37/83 should be lodged by 25th July with the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ, which will supply further details on request.

The University of Lancaster
Department of Computer Studies

LECTURER/SENIOR LECTURER

Applications are invited for the post of LECTURER/SENIOR LECTURER in the Department of Computer Studies. Applicants should have research and teaching experience in the development of microprocessor software or distributed computer systems. Appointment will be made on the Lecturer/Senior Lecturer scale according to qualifications and experience. Lecturer scale – £7,190 – £14,125. Senior Lecturer scale £13,515 – £16,905.

Further particulars may be obtained from the Registrar (reference L986/A) from the Establishment Officer (Recruitment), University House, Bailrigg, Lancaster LA1 4YW – where applications, including the names of three referees, should be sent not later than 29 July 1983. H1

University of Keele
Appointments and Counselling Service

TEMPORARY COUNSELLOR

Applications are invited for the temporary post of Counsellor beginning in September/October 1983. The Service is concerned with vocational, educational and personal counselling of students. The person appointed should be a graduate and preferably have had some work experience of the kind. Appointment will be for six months full-time or longer if part-time. Salary will be based on £8,830 p.a.

Application forms from The Registrar, The University, Keele, Staffordshire, ST5 5BG. Closing date Friday 15th July 1983. H1

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

Midland Bank Director of Banking Studies

Applications are invited for the post of Midland Bank Director of Banking Studies in the Department of Management Studies and Director of the Loughborough Banking Centre, a new postgraduate and post-experience teaching and research Centre established jointly with the Department of Economics.

The appointee will be required to develop and co-ordinate teaching and research in both domestic and international bank policy and management, and in the law and practice of banking, liaise closely with bankers and financial institutions.

Applicants should possess appropriate academic qualifications and relevant research and/or senior banking experience. The salary will be within the professorial range (£17,275 minimum, £20,300 average). The appointee may be appointed to the title of professor. Application form and further particulars may be obtained from the Registrar, University of Technology, Loughborough. Informal enquiries may be made to Professor J. Starr, Head of Department of Management Studies on (0509) 263171, Ext. 328.

Loughborough Leicestershire

UNIVERSITY OF EAST ANGLIA
Norwich

CHAIR IN DEVELOPMENT STUDIES

Applications are invited for a Chair in the School of Development Studies.

Candidates may be established scholars in any area of development studies but the School would be particularly interested in receiving applications from persons qualified in the fields of Social Change (taken to include relevant work in one or more of Sociology, Social Anthropology, Politics, International Relations, Political Economy, Political Sociology and Economic and Social History) or Natural Resource Development (taken to include relevant work on one or more of Agronomy, Animal Husbandry, Soil Science, Hydrology, Agricultural Economics and Rural Resource Management and Development).

The successful candidate will also be a member of the Overseas Development Group and will participate in the research, advisory and/or consultancy activities of the Group in accordance with the normal policies and methods of operation.

Appointment with effect from 1st April, 1984 or a date to be determined will be at an appropriate point on the Professorial scale, £17,275–£21,100 per annum.

Applications (four copies), giving full particulars of age, qualifications and experience, together with the names and addresses of three persons to whom reference may be made, should be lodged with the Registrar and Secretary, University of East Anglia, Norwich NR4 7TJ (Tel: (0603) 56161, Ext. 2268), from whom further particulars may be obtained, not later than 30th September, 1983. No forms of application are issued.

The Papua New Guinea University of Technology
Department of Electrical Communication Engineering

LECTURER

Applications are invited for the above position in the Department of Electrical and Communication Engineering.

Candidates should preferably have experience in teaching computing and engineering subjects to degree level. An interest in VHF and UHF amateur radio and future or satellite communication would be considered a higher degree or would be an advantage.

Salary: K16,020–K17,870 (K1 Sto. = 0.7315). Appointment level will depend upon qualification and experience.

Initial contract period is for approximately 3 years. Other benefits include a gratuity of 24% and at 2% Appointment and repatriation fares, leave fares for the staff member and family after 18 months of service, settling-in-outfit allowance, six weeks paid leave per year, assistance towards school fees, free housing. Salary protection and special benefit schemes are available.

Detailed applications (two copies) with curriculum vitae together with the names and addresses of three referees and telephone contact should be received by the Registrar, Papua New Guinea University of Technology, PO Box 793, Lae, Papua New Guinea, by 30 July 1983.

Applicants resident in the United Kingdom should also send a copy to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF from whom further information may be obtained. H1

Southampton THE UNIVERSITY

PROFESSOR OF REHABILITATION

Applications are invited from registered medical practitioners for the Europe Chair of Rehabilitation tenable within the Faculty of Medicine. Applicants should have interests in rehabilitation in general but must have shown distinction in the field of locomotor (including neuro-muscular) disorders.

Further particulars are available from the Secretary and Registrar, The University, Southampton SO9 5NH, to whom applications (nine copies) including the names of three referees, should be sent by 19 July 1983. Quote ref: R853/7/1. H1

The University of Sheffield

CHAIR IN THE DEPARTMENT OF INFORMATION STUDIES

Applications are invited for the Chair in the Department of Information Studies. Eligible from October 1984 or as soon as possible thereafter. The University Council should have a principal concern in the field of Librarianship.

Salary on the range professorial appointments minimum £17,275 a year average £20,300 a year.

Particulars from the Registrar and Secretary (Staffing), The University, Sheffield S10 2TN to whom applications (nine copies only), including the names of three referees, should be sent by 18 July 1983. Quote ref: R853/7/1. H1

Universities continued

The Papua New Guinea University of Technology

Department of Electrical and Communication Engineering

PROFESSOR AND ASSOCIATE PROFESSOR (2 VACANCIES)

Applications are invited from suitably qualified candidates to fill the above posts. The holder of the Chair of Electrical and Communication Engineering would be expected to assume leadership of the Department. The Associate Professorship of the Associate Professor would be chosen to complement that of the Professor.

The Department of Electrical and Communication Engineering has a current academic staff of 16 and an intake of undergraduate students into the Department is of 150 per year. The courses responsible for a bachelor degree with specialisation in either communication or power engineering, and to a lesser extent digital engineering leading to a graduate diploma and to a master's degree after further study, have been developed recently, being in the fourth year of the five year degree course within the University system.

There is scope for developing existing courses within the Department.

The applications should have appropriate qualifications and experience in teaching and administrative experience in higher education, special experience in some branch of electrical and communication engineering, and a recognition of some of the problems facing technological education in a developing country. He/she will be required to stimulate and participate in research and maintain the development of links with electrical engineering employers and the profession.

The language of instruction is English.

Salary: Professor K22,840 Associate Professor K21,720 (K1 = Stg. 0.7515 approx.).

Initial contract period is for 3 years. Other benefits include gratuity of 24% based at 2% per annum and repatriation fares for the staff member and family after 18 months of service, settling-in allowance, annual leave allowances, six-weeks paid leave per year, education fares and assistance towards school fees, free housing. Salary continuation and medical schemes are available.

Detailed applications (two copies) with curriculum vitae together with names and addresses of three referees should be received by: The Registrar, Papua New Guinea University of Technology, P.O. Box 793, Lae, Papua New Guinea, by 30 July 1983.

Applicants resident in the United Kingdom should also send a copy to the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF, from whom further general information may be obtained. H1

The New University Ulster

Institute of Continuing Education

Magee University College, Londonderry

Applications are invited for the following temporary post in Continuing Education which are for a period of one year commencing on 1st September, 1983 or as soon as possible thereafter.

LECTURER IN SOCIAL STUDIES

Ref: 83/61

Candidates should have experience in and commitment to teaching mature students at Foundation studies level.

LECTURER IN TRADE UNION STUDIES

Ref: 83/62

Applicants should have an honours degree or equivalent in industrial studies, economics, sociology or some appropriate subject and experience of teaching in trade union courses. Experience with underprivileged groups would be an advantage.

LECTURER IN ADULT EDUCATION

Ref: 83/63

Applicants should have an honours degree and preferably a postgraduate qualification in some aspect of adult and community education.

Salary (with USS) for the above posts will be within the range £7,190 – £14,125 per annum.

Applications are invited for the following temporary post which is for one year from as early a date as possible.

LECTURER IN CO-OPERATIVE STUDIES

Ref: 83/64

Applicants for the post (which is funded by the EEC) should be graduates with a degree or equivalent in the social sciences or related fields. The post is associated with courses in co-operative studies and will be involved in the launching of a programme leading to a new university Certificate in Co-Operative Studies.

Salary (with USS) will be within the range £7,190 – £12,080 per annum.

All the above posts include a developmental role as well as teaching duties.

Further particulars may be obtained from the Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting appropriate Ref. No.) to whom applications, together with a curriculum vitae and the names and addresses of three referees, should be returned not later than 22nd July, 1983. H1

University of the Witwatersrand Johannesburg

Division of Modern Greek within the Department of Comparative Literature

SENIOR LECTURER AND TUTOR

Applications are invited from suitable candidates, regardless of sex, race, colour or national origin, for appointment to the above posts.

Through the good offices of the Association for the Establishment of a Chair of Modern Greek at the University of the Witwatersrand, the University is now in a position to offer contract appointments for an initial period of three years to suitably qualified applicants willing to establish and to lead a Division of Modern Greek.

The successful applicant for the post should preferably be mother-tongue Greek speakers with a good command of English. Applicants for the Senior Lectureship should be in possession of at least an M.A. degree or similar qualification, whereas applicants for the Tutorship should have completed a recognised first degree and have teaching experience in the field of Modern Greek language.

Research interest and proven teaching ability in either Modern Greek language or Modern Greek literature will be a recommendation.

The salary range attached to these posts is as follows: Senior Lecturer R16,557–R24,867 per annum; Tutor R9,075–R13,317 per annum. (R1.62 = £1.00 approx).

The initial salary and level of appointment will be determined according to the qualifications and experience of the successful applicant.

Duties are to be assumed on 1 November 1983, or as soon as possible thereafter.

Interested persons should obtain the information sheet relating to these posts from the Secretary, South African Universities House, 474 Old Church Chichester House, 474 Old Church Colony, London WC1Y 6AY England, or from the Registrar (Planning and Staffing) University of the Witwatersrand, 1 Jan Smuts Avenue, Johannesburg 2001, South Africa, with whom applications should be lodged not later than 15 August 1983. H1

The University of Manchester

Department of Computer Science

RESEARCH ASISTANTS

Applications are invited for two SERC-funded posts to work on a project concerned with the design and implementation of an intelligent database machine. This involves the development of a suitable information model and its low-level implementation in terms of associatively-accessed, unplexed segments for both posts should have a good honours degree in Computer Science or equivalent qualification, with an interest in IKBS. One of the posts will be mainly concerned with hardware implementation, and experience with digital systems design would be an advantage. The other post will be mainly concerned with software support, and experience with PASCAL and PROLOG/LISP would be an advantage. Both posts are tenable for one year in the first instance, from July 1983 or as soon as possible thereafter.

Salary range p.a.: £6,315–£8,080 (superannuation).

Further details and application forms, available as soon as possible, are available from Mrs. H. Lavington, Department of Computer Science, The University, Manchester M13 9PL.

University of London Association of Commonwealth Universities

TWO POSTS OF GRADUATE ASSISTANT

Applications are invited from graduates, for two posts of Graduate Assistant in the Commonwealth Scholarships Department of the Association, which provides the United Kingdom secretariat for the Commonwealth Scholarship and Fellowship Plan. Preference will be given to candidates with appropriate work experience.

The work offers good administrative experience and involves close co-operation with British and other Commonwealth universities salary in range £6,315 to £9,815 p.a. (for experienced candidates up to £11,615 p.a.) plus London Allowance of £1,186 p.a. Superannuation under U.S.S Appointment to be taken up as soon as possible.

Further particulars may be obtained from the Personnel Officer, A.C.U. 36 Gordon Square, London WC1H 0PF to whom applications should be sent not later than August 1983. H1

North Western Universities O and M unit

SENIOR O AND M OFFICER

Applications are invited for the post of Senior O and M Officer in the North Western Universities O and M Unit which serves the Universities of Liverpool, Manchester and Salford, the University Colleges of North Wales (Bangor), and the University of Manchester Institute of Science and Technology. The post will become vacant on 1 October 1983, when the present Senior O and M Officer moves to the post of Director of the Unit. The Unit is primarily concerned to review methods of administration and other non-academic work carried out within the group Universities of the group and, where appropriate to implement accepted proposals.

Candidates should be graduates or hold other suitable qualifications and should have had formal training in O and M, together with broadly based experience in industry, commerce or public service.

The initial salary will be within Scale III of the National Salary Agreement for Universities, currently £13,515 to £15,925 per annum) and will be determined according to qualifications and experience.

Applications (10 copies) stating age, present qualifications and experience, together with the names of three referees, should be received not later than 29 July, 1983, by whom further particulars may be obtained. Quote Ref. RV/971.

Mr. J. S. Bryson, Senior Assistant Registrar, University, P.O. Box 147, Liverpool L69 3BX. H1

Massey University Palmerston North, New Zealand

LECTURER/SENIOR LECTURER IN HORTICULTURE

Applications are invited for the position of Senior Lecturer and Plant Physiologist which become vacant in February 1984. Applicants should hold a degree in Horticulture and preferably with postgraduate qualifications in physiology and/or practical experience, especially in fruit crops, vegetable crops or in ornamental horticulture, including landscape planning, development and maintenance.

Main responsibilities will involve the teaching of horticultural theory and practice in degree and diploma courses within the Faculty of Agricultural and Horticultural Sciences.

Commencing salaries will be in the range for Lecturer: $25,167–$29,967; for Senior Lecturer: NZ$27,888–$30,127 and will be determined in accordance with qualifications and experience.

Further details of the position, together with conditions of appointment, may be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF or from the Registrar of the University, with whom applications close on 24 August 1983. H1

University of Liverpool

Department of Statistics and Computational Mathematics

TEMPORARY LECTURER IN STATISTICS

Applications are invited for a temporary lecturership tenable for a period of one year from 1st October 1983. The successful applicant will have, or expect soon to have, a postgraduate qualification in statistics or equivalent experience. Experience of teaching or demonstrating at undergraduate level is desirable but not essential. Salary will be in the range £7,190 – £8,330 per annum.

Applications together with the names of three referees should be received not later than 24th July 1983 by the Registrar, The University, P.O. Box 147, Liverpool L69 3BX, from whom further particulars may be obtained. Quote Ref: RV/975/THES. H1

University of London Royal Holloway College

Department of Mathematics

TEMPORARY LECTURESHIP IN MATHEMATICS

from 1 September 1983 to 31 August 1984 required to teach ancillary mathematics to physics and biologists and a course in stellar structure. Appointment will be made up to the point on the scale ie £6,330 – £8,080 London Allowance £1,186.

Please send self-addressed envelope for details to the Personnel Officer, Royal Holloway College, Egham Hill, Egham, Surrey TW20 0EX. Closing date 11 July. H1

The New University Ulster

Applications are invited for the following temporary post which are for one year from 1st September, 1983.

TEMPORARY LECTURESHIP IN MATHEMATICS (PURE MATHEMATICS)

The duties of the post will include teaching in any branch of pure mathematics.

School of Humanities

Ref: RA/64

TEMPORARY LECTURESHIP IN SPANISH

Teaching duties will involve language and Guided Appreciation. Willingness to take a course in some aspect of 20th century literature would be an advantage.

Applicants for both posts should be graduates with a good honours degree in the appropriate subject.

Salary will be on one of the *three* salary points of the Lecturer scale i.e. £7,190–£7,650–£8,080–£8,530–£8,975–£9,420 per annum.

Further particulars may be obtained from The Registrar, The New University of Ulster, Coleraine, Northern Ireland BT52 1SA (quoting appropriate Ref. No.) to whom applications together with a curriculum vitae and the names and addresses of three referees, should be returned not later than 22nd July, 1983. H1

University of Canterbury New Zealand

SENIOR LECTURER OR LECTURER IN ACCOUNTANCY

Applications are invited for the above position in the Department of Accountancy.

Applications are sought primarily from persons capable of teaching courses and conducting research in Business Finance and/or Management Accounting. However, applications from persons qualified in other areas such as Financial Accounting, Auditing, Public Sector Accounting, and Auditing will be considered.

The salary for Senior Lecturers is on a scale from NZ$27,888 to $30,127 (bar), to $34,387 and for Lecturers on a scale from NZ$23,660 to $25,684 per annum.

Further particulars and Conditions of Appointment may be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF.

Applications close with the Registrar, University of Canterbury, Private Bag, Christchurch, New Zealand, on 30 September 1983. H1

University of Edinburgh

Department of Business Studies

LECTURESHIP IN INDUSTRIAL RELATIONS

Applications are invited for the post in the Department of Business Studies, which is part of the Edinburgh Division of the Scottish Business School.

A candidate who, in addition to possessing good qualifications in Industrial Relations, is able to contribute teaching in other fields, especially Organisational Behaviour, will have an advantage.

The successful candidate will be able to take up his or her appointment on 1st October 1983 or soon thereafter as is possible. The appointment will be made in the lower part of the Lecturer scale.

Applications by letter (six copies), giving the names of two referees, should be received by Professor N. C. Hunt, C.B.E., Head of Department, The Department of Business Studies, William Robertson Building, 50 George Square, Edinburgh EH8 9JY, not later than 31st July 1983. Further information about this post may be obtained from the same address.

Please quote reference No. 1077 H1

Heriot-Watt University

RESEARCH ASSOCIATE

to work on Dynamics of Marine Risers in the Department of Mechanical Engineering. Applicants should possess at least an Upper 2nd Class Honours degree in Civil or Mechanical Engineering and experience in instrumentation would be an advantage.

The post is for 2 years, salary £7,630 pa.

Further details and application forms are available from the Staff Officer, Heriot-Watt University, Chambers Street, Edinburgh EH1 1HX quoting ref. no 35/83. H1

The City University Centre For Continuing Education

CONTINUING EDUCATION TUTOR

Applications are invited from University graduates for the post of Full-time Tutor in the Continuing Education programme of the Centre.

Candidates should have a good first degree, preferably in Engineering, Technology or Applied Science and have some research and development experience in Higher Education.

In the first instance, the duties will be mainly concerned with building a Technostrong Science and Technology component into the programme and undertaking teaching in the subjects within the programme. The post will be tenable for three years and the successful candidate will be a full member of the academic staff of the University. The salary will be at a point on the Lecturer scale £6,615 to £10,511 per annum inclusive).

Further particulars and application forms may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London, EC1V 0HB. Telephone 01-253 4399, Extension 3035. Telex No. 261546 CCCITY G. THES. Closing date for receipt of applications 22nd July 1983. H1

The University of Sheffield

MRC/SSRC SOCIAL AND APPLIED PSYCHOLOGY UNIT

Research into careers and personnel development

Applications are invited to join an expanding project on job transitions and job involvement. The successful applicant will contribute to research within organizations selected to study different occupations, different types of experience in the development of young men.

The appointment is for three years from a mutually convenient date. A five-year contract may be available under the candidate will be a strong research record. Applicants should have at least two years postdoctoral experience in the field. The starting salary will be £9,235 and £12,450 (under review).

Further details are available from Dr. R.C. Nicholson, MRC/SSRC Social & Applied Psychology Unit, Department of Psychology, The University, Sheffield S10 2TN. Telephone 0742 28484.

Closing date 22 July 1983. Quote ref: R 850/B1. H1

The University of Sheffield

TEMPORARY LECTURER IN PRIMARY EDUCATION

(part-time)

Applications are invited from men and women with good primary school experience for the post in the Division of Education. This post is tenable half-time and is available for two years. An interest in the primary curriculum and in the management of primary schools would be an advantage. Initial salary £8,235 a year (under review) on the Lecturer scale £6,615 to £10,511 per annum inclusive).

Further particulars and application forms from the Registrar and University Secretary (Staffing), 10 Sheffield S10 2TN (quoting reference 1/83) to whom applications should be sent by 29 July 1983. H1

University of Newcastle Upon Tyne Department of English

TEMPORARY LECTURER

Applications are invited for the post of Temporary Lecturer in the Department of English Language tenable from 1st September 1983 to 31st August 1984. Applicants should be prepared to teach Phonology and Syntax at undergraduate levels and for the Ability to teach Computational Linguistics would also be an advantage.

Salary will be up to £9,420 per annum on the Lecturers' scale (£7,190–£14,125 per annum), according to age, qualifications and experience.

Further particulars may be obtained from the Deputy Registrar (A.P.), The University, Newcastle Upon Tyne NE1 7RU, to whom applications (3 copies) together with the names and addresses of three persons to whom reference may be made, should be sent not later than 15th July 1983. Quote reference THES. H1

Personal

IMMEDIATE ADVANCES £100 to £30,000 with minimum fuss on request. Regional Trust plc, 231 Oxford Street, Piccadilly, London W1A 4RT. Phone 01-491 2934 or 499 8416. L000

Awards

QUEEN MARY COLLEGE/HENLEY CENTRE FOR FORECASTING

(University of London)

Department of Economics

Collaborative Award in the Social Sciences

Applications are invited from candidates for an SSRC CASS award for PhD work on Testing the Efficiency of the UK Financial Futures Markets. The work will be supervised by Visiting Professor Paul Ormerod of the Henley Centre and Professor David Currie of QMC. Candidates should have a good MSc level background in Mathematical Economics and Econometrics, and programming skills would be an added advantage. The successful candidate may receive additional funding from the Henley Centre of up to £1,000 over the standard grant. Applications with CV by 8th July to: Mrs C. Brett, Department of Economics, Queen Mary College, Mile End Road, London E1 4NS.

Universities continued

University of Wales Saint David's University College, Lampeter

Department of Geography

PROJECT OFFICER

Applications are invited from computer science graduates or social scientists with expertise in computing for the post of Project Officer. The appointment will commence on 1st October, 1983, for an initial period of two years.

The appointee will ideally be an applications software programmer, able to write in BASIC/FORTRAN a suite of programs to provide for data retrieval, analysis and display in connection with ongoing research in the Centre for Rural Transport.

The salary will be on one of the *three* salary points of the Lecturer scale i.e. £7,190–£7,650–£8,080–£8,530–£8,975–£9,420 per annum.

Further particulars may be obtained from the Registrar, St. David's University College, Lampeter, Dyfed, SA48 7ED to whom applications, together with the names and addresses of three referees, should be returned by Friday, 22nd July, 1983. H1

University of Liverpool

Institute of Child Health Alder Hay Children's Hospital

RESRCH ASSISTANT

Applications are invited for the post of Research Assistant in the Institute of Child Health. Candidates should have a good honours degree, preferably in Biological Science and have some research and development experience in Higher Education.

The successful applicant will be required to undertake computer programming, statistical and data analysis and also some fieldwork (data collection).

The initial salary will be £6,310 per annum.

Applications, together with the names of two referees, should be received not later than 15th July, 1983, by the Registrar, P.O. Box 147, Liverpool L69 3BX, from whom further particulars may be obtained. Quote ref. RV/970. H1

University of Durham

LECTURESHIP IN ANTHROPOLOGY

Applications are invited for the post of Lecturer in Anthropology from candidates with interests in some aspects of Social Anthropology. The appointment will date from 1st October 1983 or such other date as may be arranged.

The appointment will be made on the Lecturer's salary scale £7,190–£14,125 per annum), plus superannuation.

Applications (3 copies), naming three referees, should be submitted not later than 15th July, 1983 to the Registrar and Secretary, Old Shire Hall, Durham DH1 3TH from whom further particulars may be obtained. H1

The University of Manchester

ASSISTANT STUDENT ACCOMMODATION OFFICER

Applications are invited for this post which requires duties with a good Honours degree or equivalent. Candidates should preferably be under 30 years of age. The appointee will assist in finding suitable accommodation for *students and in placing students in University owned accommodation.* Initial salary range £6,315 – £8,975 p.a. Particulars and application forms returnable by July 7th) from the Registrar, The University, Manchester M13 9PL. Quote ref: 702/83/THES. H1

University of Keele

LECTURESHIP IN COMPUTER SCIENCE

Applications are invited for the above post within the Department of Computer Science from October 1983. The initial appointment will be within the range £6,315–£8,975 (Lecturer scale £7,190 – £14,125 (recently revised).

Further particulars and application forms from The Registrar, The University, Keele, Staffordshire, ST5 5BG, to whom further particulars may be obtained. Quote ref. RV/969. H1

University of Newcastle Upon Tyne

LECTURESHIP IN MECHANICAL ENGINEERING

Applications are invited for the above post in the Department of Mechanical Engineering. Candidates should have a good honours degree in Mechanical Engineering or Physics. They should also have appropriate teaching, research or industrial experience, in one of the areas mentioned above.

DEPARTMENT OF ENGLISH

LECTURER II OR SENIOR LECTURER

Applications are invited for a lecturer or senior lecturer to teach mainly on initial and in-service teacher training courses in Language. The successful candidate will be Course Tutor for the CHAA Diploma in Professional Studies in Education – Language Development and will be a contributor to the development of an MA in a related field. An ability to contribute to the BA Honours degree in English Studies would also be valuable. This degree combines a study of literature with supporting courses in linguistics and practical experience of language composition.

Candidates should have a higher degree in Linguistics or Language in Education and be qualified and experienced teacher educators.

Salary Scale: Lecturer II – £7,215–£11,568
Senior Lecturer – £10,683–£12,552 (bar)–£13,443

The successful candidate will be appointed on the appropriate scale according to experience.

Application forms and further details from the Personnel Officer, Sheffield City Polytechnic, (Dept 185), Hallamb House, Pitzalan Square, Sheffield S1 2BB, or by telephoning (0742) 20911, Ext. 387. Closing date for applications: 8th July.

Sheffield City Polytechnic is an Equal Opportunities Employer.

The University of Birmingham

ASSISTANT FINANCE OFFICER

Applications are invited for the above post in the University Finance Office. Applicants must be *qualified accountants* with sufficient post-qualification experience to demonstrate their ability to maintain and develop the financial and management accounting information system, and to meet the needs of the University.

Salary in the scale £13,515 – £14,563 pa, with superannuation benefits.

Further particulars and application forms obtainable from the Senior Assistant Secretary, University of Birmingham, P.O. Box 365, Birmingham B15 2TT, to whom applications should be sent by 22nd July 1983. H1

The University of Sheffield

CHAIR OF ECONOMICS

Applications are invited for the Chair of Economics, tenable from 1st October 1983 or as soon as possible thereafter. Candidates with interests in any specialism in Economics will be considered but they should have a strong base in Economic Theory. Salary on the scale for professorial appointments: minimum £17,475 a year; maximum £20,350 a year. *Particulars from the Non-academic Staff Officer (Staffing), The University, Sheffield S10 2TN* to whom applications (one copy only) should be sent by 15 July, 1983. Quote ref: tas/1/81. H1

University of Oxford

DEPARTMENT OF EDUCATION

UNIVERSITY LECTURER IN EDUCATIONAL STUDIES

Applications are invited for a University Lecturership in Educational Studies tenable from 1 October 1983 or as soon as possible thereafter. The appointment is for an initial period of five years, with the possibility of renewal for a further five years.

The successful candidate will be required to undertake research and teaching in the field of Educational Studies, and to contribute to the teaching of the Department's Diploma and Master's courses in Education. Applicants should have a first degree and a higher degree or equivalent qualification in Education or a relevant discipline, and should have experience of research and teaching in Education.

Salary will be on the University Lecturer scale (£7,190–£14,125 per annum) according to qualifications and experience.

Further particulars may be obtained from the Registrary, University Offices, Wellington Square, Oxford OX1 2JD, to whom applications should be sent by 15 July 1983. H1

Polytechnics

Computer Aided Engineering

Senior appointments in Computer Aided Engineering have been created by the Department of Engineering integrating its academic planning with that of two other Departments, SCIENCE and COMPUTER STUDIES & MATHEMATICS, housed in a new building, the Integration will cover joint course planning and will influence research developments.

READERSHIP

(Principal Lecturer salary scale)

Ref: L/5 – possibly with a special reference to microelectronics

PRINCIPAL LECTURERS/ SENIOR LECTURERS/ LECTURERS

Ref: L/6 – with particular reference to Computer Aided Design

SALARY SCALES

Principal Lecturer – £12,519–£13,938 (bar) – £15,744 pa

Senior Lecturer – £10,683–£12,552 (bar) – £13,443 pa

Lecturer II – £7,215–£10,683 (bar) – £11,568 pa

These posts are available from 1st September, 1983 and demand candidates who are qualified academically and professionally and ideally possess relevant industrial experience. Substantial research experience is essential for the Reader appointment.

All salaries will be fixed at a point on the scale appropriate to previous service and experience.

For further details and an application form please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol. Tel: Bristol (0272) 656261, Ext. 216 or 217. Applications to be returned by 8th July, 1983.

Please quote reference number in all communications.

Bristol Polytechnic bbb

Computer Aided Engineering

During the next few years, Bristol Polytechnic expect to make a major contribution towards the development of computer aided engineering in a city and region notable for high technology industry. The person appointed to this post will lead this development.

ASSOCIATE HEAD

£14,679 - £16,305

The polytechnic has integrated the academic planning of its Engineering Department with that of Science and Computer Studies & Mathematics, to make possible the planning of joint courses and to influence research developments. Available from 1st September 1983, this appointment demands a creative, innovative individual with substantial research experience – coupled with a strong academic background in industrial experience would be an advantage.

Salary will be determined according to previous experience or service.

For further details and an application form, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol. Telephone Bristol (0272) 656261, extension 216 or 217. Please quote ref L/4. Closing date 28th July 1983.

Bristol Polytechnic bbb

SHEFFIELD CITY POLYTECHNIC

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

LECTURER II/SENIOR LECTURER IN APPLIED DYNAMICS

The person appointed will join a panel of staff concerned with the teaching of machine dynamics, industrial engineering, instrumentation and control to first degree, higher degree, diploma and certificate levels. There is a developing interest in robotics. They will also be expected to contribute to the Department's research and laboratory development programme.

Applicants should possess a degree or higher degree in Mechanical Engineering or Physics. They should also have appropriate teaching, research or industrial experience, in one of the areas mentioned above.

DEPARTMENT OF ENGLISH

LECTURER II OR SENIOR LECTURER

Applications are invited for a lecturer or senior lecturer to teach mainly on initial and in-service teacher training courses in Language. The successful candidate will be Course Tutor for the CHAA Diploma in Professional Studies in Education – Language Development and will be a contributor to the development of an MA in a related field. An ability to contribute to the BA Honours degree in English Studies would also be valuable. This degree combines a study of literature with supporting courses in linguistics and practical experience of language composition.

Candidates should have a higher degree in Linguistics or Language in Education and be qualified and experienced teacher educators.

Salary Scale: Lecturer II – £7,215–£11,568
Senior Lecturer – £10,683–£12,552 (bar)–£13,443

The successful candidate will be appointed on the appropriate scale according to experience.

Application forms and further details from the Personnel Officer, Sheffield City Polytechnic, (Dept 185), Hallamb House, Pitzalan Square, Sheffield S1 2BB, or by telephoning (0742) 20911, Ext. 387. Closing date for applications: 8th July.

Sheffield City Polytechnic is an Equal Opportunities Employer.

Paisley College

IT (Information Technology) PROJECTS OFFICER

The Department of Electronic Engineering and Mathematics and Computing are establishing the Strathclyde Microsystems Centre with 'workshop' facilities for clients, and a Programme of Seminars and Lectures in association with INMAP Limited of Edinburgh. The aim of both of these is to promote the application of IT to Scottish Industry and Commerce.

The Projects Officer will be required to play a leading role and, in addition, to undertake some consultancy work.

This fixed term appointment, to 31st December, 1984, is available immediately and will involve some travel throughout Scotland.

Applicants should be graduates with relevant qualifications and experience.

Salary Scale: £10,050 to £11,325

Application forms and further particulars may be obtained from The Personnel Officer, Paisley College of Technology, High Street, Paisley PA1 2BE. Tel: 041-887 1241, Ext. 230 (informal enquiries to Ext. 261 or 379).

LEEDS POLYTECHNIC

School of Electrical Engineering

READER IN COMMUNICATION ELECTRONICS

Applicants should be suitably qualified and have a good background in Communications and/or Signal Processing, together with research and development experience in an appropriate area. The ability to lead and motivate a staff team and to build up research and development links with industry will also be required.

The School has strong interests in various aspects of telecommunications and computing. There is a firm base in the area of digital television and it is anticipated that other areas of communication systems will be developed.

Salary Scale: **£12,519–£13,983 (bar) – £15,744**

Details from: The Services Officer, Leeds Polytechnic, Calverley Street, Leeds LS1 3HE. Tel: (0532) 462355.

Closing date: 15th July, 1983. Please enclose SAE.

Leeds is an equal opportunity employer.

oxford polytechnic

DEPARTMENT OF MODERN LANGUAGES

SENIOR LECTURER/ LECTURER II IN FRENCH

Applicants should have a good honours degree (or equivalent), suitable teaching experience at degree level and research interests, and preferably an appropriate higher degree. The successful candidate will be required to teach a variety of language skills (eg interpreting, precis-writing) at *degree and diploma level and in addition will be expected to* be able to make a contribution to an appropriate area in Contemporary French Studies. The appointment will be from 1st September, 1983.

Salary Scale: Lecturer II £7,215–£11,568
Senior Lecturer £10,683–£13,443

DEPARTMENT OF LAW, POLITICS AND ECONOMICS

PRINCIPAL LECTURER IN ECONOMICS

Applications are invited for this senior appointment in the Department. The Department teaches Economics to degree level in the Polytechnic's Modular Degree Course. Candidates with interests in any specialism in Economics may be considered, but the Department would be particularly interested in a person able to take responsibility for the teaching of Industrial Economics and contribute to the development of computer assisted approaches to economic analysis.

Salary scale: PL: £12,519–£15,744

The closing date for applications for both these poste is 22nd July, 1983.

Further information and application forms available from the Administrative Assistant (Staffing Department), Oxford Polytechnic, Headington, Oxford OX3 0BP. Tel: Oxford 64777.

Polytechnics continued

BRISTOL POLYTECHNIC
Department of Town & Country Planning

ASSOCIATE LECTURER II/ SENIOR LECTURER (0.5) IN PHYSICAL GEOGRAPHY

Ref: L/59

Applicants are invited from well qualified persons with specialist interests in Physical Geography and resource management for the post of Associate Lecturer II/Senior Lecturer for one year commencing on 1 September 1983 and terminating on 31 August 1984. The person appointed will contribute to the teaching of Physical Geography, particularly Biogeography including the management of natural resources and some Climatology, at honours degree level. Previous research and/or teaching experience would be an advantage.

Associate Lecturer posts are not full-time, but require commitment for half a week on a regular basis. Salary a 50% of the full-time salary scale.

Salary Scale: LII 50% of £7,215–£10,683 (bar) - £1,568 per annum.
SL 50% of £10,683–£12,552 (bar) – £13,443 per annum.

The appointment will be made on the appropriate scale according to relevant previous service/experience. (Progression from the LII scale to the SL scale is in accordance with the provisions of the Burnham Further Education Report).

For further details and an application form, to be returned by 15 July 1983, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol or Tel: Bristol 65826), Ext. 216 or 217.
Please quote reference number L/59 in all communications.

PAISLEY COLLEGE

LECTURESHIP IN ELECTRONIC ENGINEERING

Applications are invited from holders of a good honours degree and with relevant industrial, research or teaching experience for the above post.

The successful candidate will be expected to teach to honours degree level and to contribute to research, consultancy, or courses for industry. The following areas are of particular interest: Control Systems, Microelectronics, Electronic Circuit Design, Electronic Equipment Manufacture and Test, Communication Systems, Digital Systems, Microwaves and Optics.

Salary Scale – Lecturer 'A' £6,313 to £13,125

Application forms and further particulars may be obtained from The Personnel Officer, Paisley College of Technology, High Street, Paisley PA1 2BE (Tel: 041–887 1241, Ext. 230).

Department of Civil Engineering and Building

LECTURER II/ SENIOR LECTURER IN BUILDING

Salary
£7,215–£13,443 pa

Preference will be given to applicants holding a degree in building and corporate membership of the Chartered Institute of Building.

Applicants must also have appropriate experience in the building industry and have a major interest in the area of building technology and management.

Further particulars and application form are available from:

The Personnel Officer,
The Polytechnic of Wales,
Pontypridd,
Mid Glamorgan
CF37 1DL.
Tel: (0443) 405133,
Ext. 2021

Closing date:
15th July, 1983.

The Polytechnic of Wales

Portsmouth Polytechnic
Department of Physics

LECTURER IN PHYSICS

Required for September 1983. The appointment will initially be on a temporary basis for the academic year 1983/84.

The Department offers courses leading to the awards of HND TEC Physics, BSc (Hons) Applied Physics, BSc (Hons) Physics and MSc Microwave Solid State Physics.

Applicants should preferably be able to offer an expertise in Optics and digital electronics, but experience in other fields will be considered.

Salary scale: £7,215–£11,568 per annum.

Application forms from the Personnel Office, Nuffield Centre, St Michaels Road, Portsmouth PO1 2ED. (Tel: (0705) 826451. Please quote reference U3.

Closing date for applications: 14th July, 1983.

The Head of Department of Physics will be pleased to give further information if required.

Brighton Polytechnic
1. School of Chemistry

RESEARCH ASSISTANTS
£4,947 – £5,649

Applications are invited from good honours graduates (or those to graduate shortly) in Chemistry or Biochemistry to work on a project entitled "Studies in pattern of microbiological hydroxylation and their application to biotechnological synthesis."

2. Department of Civil Engineering
Coastal Engineering Research Unit

The successful candidate will join a team investigating the near shore hydraulic regime of selected sites along the Sussex coast.

Candidates should have or expect to obtain a good honours degree in Civil Engineering or a related discipline and have an interest in coastal hydraulics and numerical analysis. The successful candidate will be expected to register for a higher degree.

RESEARCH ASSISTANT/FELLOW

3. Department of Mechanical and Production Engineering

Salary £6,200 – £8,400

To work on a joint project with a major manufacturer of fluid power components in the area of computer simulation and aspects of the design of hydraulic systems.

The post may be filled at either post-doctoral or graduate level; in the latter case the appointee would be expected to register for a higher degree. Experience in computer programming and/or CAD is highly desirable.

It is initially a two year appointment with the possibility of extension for a further year. In addition, there is the likelihood of a permanent position with a major manufacturer of fluid power systems at the end of the project.

Application forms and further details available from the Deputy Head of Personnel, Brighton Polytechnic, Lewes Road, Brighton BN2 4AT. Tel: Brighton 693655 Ext. 2527. Closing date 15 July 1983. BS

Bristol Polytechnic
Department of Construction & Environmental Health

LECTURER II/ SENIOR LECTURER IN CONSTRUCTION TECHNOLOGY/ ENVIRONMENTAL SERVICES – Ref No L/56

Candidates should be graduates and have professional qualifications and experience in the construction industry or related professions. A particular interest in the energy implications and design conditions relating to the installation of environmental services would be advantageous. The successful candidate would be expected to make a major contribution to degree, diploma and postgraduate courses in the Department and be expected to contribute to the Departmental research and consultancy. Duties to commence on 1 September 1983 or as soon as possible thereafter.

Salary Scale:
LII (under 21) £3,858 per annum
LII £4,068 – £6,483 per annum
SL £6,483 – £7,215 per annum (bar)
£7,215–£8,683 per annum.

The appointment will be made on the appropriate scale according to relevant previous service/experience. (Progression from the LII scale to the SL scale is in accordance with the provisions of the Burnham Further Education Report).

For further details and an application form, to be returned by 11 July 1983, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol or ring Bristol 656261, Ext 216 or 217.

Please quote Reference Number L/56 in all communications. BS

Bristol Polytechnic
Department of Business Studies

Applications are invited for the following post, duties to commence on 1 September 1983 or as soon as possible thereafter.

READER IN BUSINESS POLICY – Ref No L/57

To develop and coordinate a comprehensive research programme designed to underpin the teaching and curriculum design and development activities associated primarily with existing undergraduate (BA/BA (Hons) degrees in Business Studies.

Candidates should possess: appropriate qualifications and experience; a record of publication which demonstrates recognised standing in research in the field of business policy; business and teaching experience relevant to undergraduate work; and the ability to lead colleagues in academic activities at an advanced level.

Salary Scale: £12,519–£13,938 (bar) – £15,744 per annum.

For further details and an application form, to be returned by 11 July, 1983, please contact the Personnel Office, Bristol Polytechnic, Coldharbour Lane, Frenchay, Bristol or ring Bristol 656261, Ext 216 or 217.

Please quote Reference Number L/57 in all communications. BS

Preston Polytechnic
Applications are invited for the following posts:

TEMPORARY LECTURER II IN ECONOMICS & BUSINESS STUDIES
(Reference AA/83)

TEMPORARY LECTURER II IN MANAGEMENT & ORGANISATION STUDIES
(Reference AA/84)

In both cases, the temporary contract will run from 1st September 1983 to 31st August 1984.

Salary scale: £7,215 to £11,568.

Application forms and further details, quoting reference number from the Personnel Office, Preston Polytechnic, Preston PR1 2TQ. Tel: (0772) 263031. Closing date: 15th July 1983. BS

Polytechnic of the South Bank
Borough Road, London SE1 0AA

FACULTY ADMINISTRATIVE OFFICER(S)

Salary up to £10,956 inclusive of London Allowance (Currently under review).

The present Faculty of Science & Engineering is being split into two new Faculties. Applications are invited for two new posts of Faculty Administrative Officers. One for the Faculty of Science & Technology and one for the Faculty of Engineering. These are senior posts in the academic administration and candidates should be graduates with appropriate administrative and management experience.

Application forms and further particulars are available from the Personnel Office, Tel: 01-928 8989 ext 2320.

Closing date for receipt of completed application forms will be 15.7.83. BS

Polytechnic of the South Bank
Faculty of the Built Environment
Division of Estate Management

PART TIME LECTURERS

Part time Lecturers required to teach Mathematics or statistics with particular emphasis on applications, courses in the Environment for the 1983/84 session.

Salary Scale: £7,215 to £13,443.

Application forms and further particulars may be obtained from the Personnel Officer, Sunderland Polytechnic, Langham Tower, Ryhope Road, Sunderland SR2 7EE. Tel: Sunderland 76311, Ext 141.

Closing Date: 21st July, 1983. HS

Oxford Polytechnic
Department of Biology

LECTURER II/ SENIOR LECTURER

Applications are invited for the post of Lecturer II/Senior Lecturer. This is a temporary, two year post.

The successful candidate will play a major role in teaching Genetics in the Biology degree and Land Use Planning degree. Preference will be given to applicants with additional interests in Ecology and Conservation. Ability to contribute to teaching courses in Environmental Studies would be advantageous. The successful candidate would be expected to make a major contribution to degree, diploma and postgraduate courses in the Department and be expected to contribute to the Departmental research and consultancy. Duties to commence on 1 September 1983 or as soon as possible thereafter.

Salary Scale: LII £7,215–£10,683 (bar) – £1,568 per annum
SL £10,683–£12,552 (bar) – £13,443 per annum.

The appointment will be made on the appropriate scale according to relevant previous service/experience. (Progression from the LII scale to the SL scale is in accordance with the provisions of the Burnham Further Education Report).

For further details and an application form, to be returned by 15 July 1983, please contact the Personnel Office, Oxford Polytechnic, Headington, Oxford OX3 0BP. Tel: Oxford 64777, Ext 2241.

Please quote Reference Number L/58 in all communications. HS

City of London Polytechnic
Department of Politics & Government

TEMPORARY LECTURESHIP: COMPARATIVE POLITICS & POLITICAL BEHAVIOUR

Applications are invited for appointment to a temporary (1 year) lectureship in the Department of Politics and Government commencing on 1st September 1983 or as soon as possible thereafter.

The appointment is on a half-time basis (approximately 9 hours teaching per week) and preference will be given to candidates qualified to teach courses in comparative political systems, comparative political problems, and political participation.

Appointment will be on the salary scale £6,141–£7,407 including London Weighting.

For further details and an application form please telephone but write on possession to the reference below to the Staff Records Officer, City of London Polytechnic, 117 Houndsditch, London EC3A 7BU.

Sunderland Polytechnic
Faculty of Engineering
Department of Applied Physics

LII/SL LECTURER IN GEOLOGY
(One year Term Contract)

Salary Scale: LII £7,215–£10,683 (bar) – £1,568 per annum
SL £10,683–£12,552 (bar) – £13,443 per annum.

The successful applicant will be responsible for the presentation of courses in applied geology to undergraduates in engineering, environmental and offshore resources courses and will assist in the teaching of introductory geology to undergraduates already have a good honours degree in geology, some teaching experience and preferably some industrial experience or industrial experience.

An application form and further particulars may be obtained from the Personnel Officer, Sunderland Polytechnic, Langham Tower, Ryhope Road, Sunderland SR2 7EE. Tel: Sunderland 76311, Ext 141.

Closing Date: 21st July, 1983. HS

Fellowships

University of Cambridge
King's College

RESEARCH FELLOWSHIPS IN DYNAMICAL SYSTEMS

Applications are invited for Research Fellowships in Dynamical Systems. Fellows will collaborate in a project in the College's Research Centre, involving research into the mathematical aspects of the subject and relevant applications. The College would welcome candidates with knowledge of the following fields: Theory of Bifurcations, Hamiltonian Systems, Theory of Non-linear Diffusion Equations, Ergodic Theory, Numerical Investigation of Chaotic Systems, Modelling and Study of Chaotic Systems or Processes in any of the Physical or Biological Sciences.

Men and women graduates of any university are eligible, subject to an age limit of 40 years on 1 December 1983. Fellowships will commence on 1 October 1984 and the normal tenure is two years. Stipends range from £5,000 to £6,000 (about £12,500 a year and an unmarried fellow is provided with accommodation in College if he or she wishes.

Applications will need to be made by 1 October 1983. Write at once for further details to the Conveyancer, the Research Centre, King's College, Cambridge, Cb2 1ST. HS

The University of Leeds

MONTAGUE BURTON FELLOWSHIP IN JEWISH STUDIES

Applications are invited for the post of Montague Burton Fellow in Jewish Studies. A good honours degree is essential and a higher degree is desirable. The University will be looking for someone with the drive and initiative needed to develop this subject rapidly and effectively. It is hoped that the Montague Burton Fellow will contribute to teaching courses in some of the following subjects: History, Sociology, Hebrew and Yiddish. The post available from October 1983 for a fixed term of up to three years.

Salary on the 1st July (currently under review) £7,215–£10,683 according to age, qualifications and experience.

Application forms and further particulars may be obtained from the Registrar, The University, Leeds LS2 9JT, quoting reference number T/B/D/G to whom applications should be addressed. Closing date for applications 22 July 1983. HS

The University of Sheffield

DOUGLAS KNOOP RESEARCH FELLOWSHIP IN ECONOMIC HISTORY

Applications are invited from men and women for the above Fellowship tenable for up to three years from 1 October 1983. The successful applicant will be required to pursue research within the field of Economic and Social History and to engage in a limited amount of teaching.

Applications are sought from qualified individuals in all fields and periods of Economic and Social History but preference may be given to those with interests in historical/industrial archaeology and/or landscape studies.

Applicants should be available for interview in Great Britain. Initial salary within the range £6,330 – £7,350 a year on Range 1/a salary scale, which rises to £8,610 a year. Particulars from the Registrar and Secretary (Ref. Fellow), The University, Sheffield S10 2TN, to whom applications (three copies), including the names and addresses of three referees, should be sent by 25 July 1983. Quote ref: R563/D1. HS

Colleges of Art

Dudley Metropolitan Borough
Stourbridge College of Technology & Art

LECTURERS GRADE I AND II

The following posts in Department of Foundation and Graphics, in Faculty of Art & Design are available from September –

POST A – Lecturer Grade II £7,618–£11,133. Graphics Typography Print, Higher Diploma Graphics Diploma Course.

POST B – Lecturer Grade I £8,355–£9,951. Graphics Studio Co-ordinator. DATEC Graphics Diploma Course.

POST C Lecturer Grade I £8,355–£9,951. Audio Visual/Computer Graphics. DATEC Graphics Diploma Course.

POST D – Lecturer Grade I £8,355–£9,951. DATEC Diploma and Higher Diploma Graphics Course.

Application forms/details (foolscap SAE) from Principal, Dudley College of Technology & Art, Hagley Road, Stourbridge, West Midlands, DY8 1QU. HS

Colleges of Further Education

Education
Dunstable College

Appointment of Vice Principal

Applications are invited from suitably qualified candidates with substantial experience in further education and management experience at a senior level.

The College is organised in four departments: Business and General Studies (Grade V), Engineering and Science (Grade IV), Community and Family Studies (Grade III), and Printing and Graphic Arts (Grade III).

The College is Group V and the Vice-Principal's salary will be in the range £16,443 to £17,388.

The successful applicant will be required to take up duty from 1st January, 1984.

Application forms (with further particulars) may be obtained from D. P. J. Browning, MA, Chief Education Officer, County Hall, Bedford MK42 9AP or by telephone to Miss Whittemore on Bedford 63222, Ext. 348. Completed forms to be returned by Monday, 25th July, 1983.

The Council is an Equal Opportunity Employer.

Bedfordshire COUNTY COUNCIL

Colleges of Further Education continued

De Havilland College
Welwyn Garden City

Principal

Applications are invited for the post of Principal of this Group 5 College. The present Principal Mr T. C. Brown, will be retiring at the end of December, and it is hoped that the successful candidate will be able to take up the appointment in January 1984.

The College is situated in modern buildings on a pleasant site in the town centre of Welwyn Garden City. It provides a very wide range of courses to meet the needs of local industry and commerce and is the centre for social, cultural and recreational activities in the area.

Applications, by letter, should be submitted by 18 July to the County Education Officer (Ref: GHM), County Hall, Hertford SG13 8DF, from whom further particulars are available.

Hertfordshire County Council

Colleges with Teacher Education

ST MARY'S COLLEGE
Strawberry Hill, Twickenham, Middlesex

Registrar

required for Non-Academic administration of Student Admissions, Records, etc in a College of 1,200 undergraduate and postgraduate students. Local Government Scale AP5 £7,791 pa to £8,325 pa plus London Weighting £567 pa. Previous experience of educational administration, preferably in a College of Higher Education or University, essential. Further details from the Bursar, St Mary's College, Waldegrave Road, Twickenham TW1 4SX. Tel: 01-892 0051.

St Mary's College
Strawberry Hill

University of Dundee
Centre for Medical Education
There is a vacancy for a graduate

RESEARCH OFFICER

to work for at least one year in this small but very active Centre which is engaged in the development of better ways of teaching undergraduates and of continuing the education of doctors and para-medical staff in the country and overseas. Initially the person appointed will be engaged in the development of self-teaching modules and exhibition materials but there will be an opportunity and need to play a part in the Centre's research including the development of assessment techniques and the running of staff development courses.

Applicants need not be medically trained but they should have previous experience in teaching or educational work.

The salary attached to the appointment will be within the range £6,310 – £8,955 with placing dependent on qualifications and experience.

Further particulars are available from The Personnel Officer, The University, Dundee DD1 4HN, to whom applications (three copies) containing full details of the name of two referees should be sent by 15 July 1983. Please quote Ref E87/43/85D. HTT

University of Newcastle upon Tyne
Department of Naval Architecture and Shipbuilding

HENRI KUMMERMAN FOUNDATION AND MacGREGOR STUDENTSHIP

Applications are invited from graduates (or those expecting to graduate this summer) in Engineering, Physics or Mathematics for the Henri Kummerman Foundation and MacGregor Studentship tenable from 1 October 1983. The Studentship is intended to encourage and assist one of high merit who desires to undertake Naval Architectural work, and who intends to follow a career in the Shipbuilding Industry. The successful candidate will be given the opportunity of tenure of the Studentship for a period of three years and the value will be sufficient to maintain the student at a reasonable level as the maintenance grant for postgraduate research council awards, currently £3,330, together with remission of fees, plus a limited supplement to industrial experience may be taken.

Further particulars and application forms, which must be returned by 9 September 1983, may be obtained from Professor J. H. Evans, Department of Naval Architecture and Shipbuilding, The University, Newcastle upon Tyne NE1 7RU. HTT

University of Hull
Department of Physics

SERC AND UNIVERSITY RESEARCH STUDENTSHIPS

Applications are invited from candidates with at or above second honours degree in Physics or a closely related subject for two research studentships to be held from October 1983 and leading to the degree of PhD. The studentships will be available either for experimental research in solid state physics or for work in theoretical physics.

It is expected that one of the studentships will be available to the study of the electro optic properties of wide bandgap semiconductors.

Further details and applications should be made to Professor D. W. A. Sharp, Physics Department, University of Hull, Hull, Hu6 7RX. HTT

University of London
Westfield College
Department of Physics
Applications are invited

SERC STUDENTSHIP

which is available for experimental work on the photoelectric spectra of impact crystals.

Applicants should have, or expect to obtain, a first or upper second class degree in physics or a related subject.

Applications, which should include a curriculum vitae giving the names of two referees should be sent to Dr. Dischli, Department of Physics, Westfield College, Kidderpore Avenue, London NW3 7ST. HTT

The Institute of Chartered Accountants in England and Wales.

RESEARCH ASSISTANT

OBJECTIVE TESTING

A Research Assistant is required, initially for a two-year assignment, in the Examination Section of the Institute's Education and Training Department. The task involved may be acceptable for registration by the successful applicant for a higher degree at the University of London. It covers:

- identifying the accountancy knowledge and skills suitable for assessment by Objective Test Techniques;
- preparing, testing and analysing Objective Test items and papers;
- establishing procedures for setting, marking and undertaking Objective Test papers;
- developing training programmes.

Applicants should have a degree in Education or Psychology (or the equivalent) and have a working knowledge of statistical methods and associated computing techniques. Experience with similar research and development would be an advantage.

From March 1984 the Department will be situated in the Institute's new building in Milton Keynes. Until then the job location will be Goswell Road, London EC2. Should the successful applicant be resident in the Milton Keynes area, travelling expenses will be paid for the time to be spent working in London.

Please apply in writing, enclosing full CV to:
Mrs Helene Michell, Personnel Officer
Institute of Chartered Accountants in England and Wales
PO Box 433, Chartered Accountants' Hall
Moorgate Place, London EC2P 2BJ

DIHE
Dorset Institute of Higher Education
Department of Engineering, Computing and Mathematics

Research Assistant

Applications are invited for the post of research assistant which will be for two years in the first instance. One post is available which will be in one of the following areas:
Special purpose coding techniques applied to local area networks.
Special purpose instrumentation methods for material life cycle testing.
Crack initiation, propogation and fracture characteristics in certain alloys.
Laser-Doppler Velocity measurement applied to the control of motion.
Rope dynamics and fall protection.
The successful applicant will be expected to register for a higher degree.
Salary scale: £4,947–£5,649 which may be supplemented by part-time teaching work.
Closing date: 14th July, 1983.
Further details may be obtained on receipt of a s.a.e. from: The Director's Secretary (THES 4), Dorset Institute of Higher Education, Wallisdown, Poole BH13 5BB.

University of Bristol
School of Education

RESEARCH ASSISTANT (half-time)

Applications are invited for the post of Research Assistant (half-time) to develop graphic materials, both as paper layouts and on a microcomputer screen, for use in teaching deaf infants to read. The work is in the Department of Industry funded project and applicants must have the aptitude to assist the other members of the team with a variety of support-ing work. They must have an appreciation of preparation of typographic and graphic materials. The post is tenable from 1 October 1983. Initial salary will be in the range £5,115 per annum (Scale 1A).

Applications giving details of qualifications and experience, together with the names and addresses of two referees, should be sent by 15th July 1983, to the Secretary, University of Bristol, School of Education, 35 Berkeley Square, Bristol BS8 1JA. Informal enquiries may be addressed to Mr. P. A. Kingsley Scott. Ref: 83/RA/1. HTT

The Polytechnic Wolverhampton

RESEARCH POSTS

Applications are invited for the following projects.

Faculty of Art and Design
1. Casting in Metals for Art and Design.

Faculty of Education
2. Comparative Study of the Psychological Physiological and Social Factors affecting Sports Skill Development in Young and Middle-Aged Males.

Faculty of Engineering
3. Effect of Entry Length on Pressure Drop and Heat Transfer in a Plate-Fin Heat Exchanger.

4. Possible Use of Industrial Waste Materials in the Manufacture of Hydraulic Cement.

5. Quality Assurance of Screw Heads.

Faculty of Humanities
6. Writing and Reading – A Study of the New Relationship between Writing and its Cultural Context.

7. Aspects of Semantic Analysis in German-English Translation.

Faculty of Science
8. Pilot Scale Polymer-Supported Bio-Organic Synthesis with Computer Purposed and Controlled Reactor.
9. Investigation of the Role of Prostaglandins in Intestinal Parasitism of Lipids.

Faculty of Social Science
10. Long Term Unemployed and Preferred Work Values.
11. Development of Self-Regulated Activities in Downs Syndrome Infants.

Salaries £6,649 to £8,363 (2nd point) Salary £7,659 to £9,351.

Application forms and further details from: Sterling Office, The Polytechnic, Wolverhampton WV1 1SB. Telephone (0902) 710054 (24 hour answaphone service). HTT

University of Bristol
School of Education

RESEARCH ASSISTANTSHIPS IN ECONOMICS

to conduct research in one of the following areas:

1) The internal organisation of the firm and labour flexibility (Reference AA/83)

2) Regional policy (Reference AA/84)

The persons appointed will be expected to register for a higher degree and to undertake a limited amount of teaching.

Salary scale: £5,123 to £6,861.

Application forms and further details, quoting reference number, from the Personnel Office, Polytechnic, Preston PR1 2TQ. Tel: (0772) 263031. Closing date: 15th July 1983. HTT

The University College of Swansea
Department of Spanish

ONE-YEAR RESEARCH STUDENTSHIP

Applications are invited for a one year research studentship in the Department of Spanish as from 1 October 1983. Based on the Spanish Civil War, the work will be supervised by Dr. John Sanderson. Brief outline research projects should be submitted to Dr. John Sanderson, Department of Spanish, Swansea University College, Singleton Park, Swansea SA2 8PP. HTT

The Polytechnic Wolverhampton

RESEARCH POSTS

Applications are invited for the following projects.

Faculty of Education
1. Comparative Study of the Psychological, Physiological and Social Factors affecting Sports Skill Development in Young and Middle-Aged Males.

Faculty of Engineering
2. Effect of Entry Length on Pressure Drop and Heat Transfer in a Plate-Fin Heat Exchanger.

3. Possible Use of Industrial Waste Materials in the Manufacture of Hydraulic Cement.

4. Quality Assurance of Screw Heads.

Faculty of Humanities
5. Writing and Reading – A Study of the New Relationship between Writing and its Cultural Context.

6. Aspects of Semantic Analysis in German-English Translation.

Faculty of Science
7. Pilot Scale Polymer-Supported Bio-Organic Synthesis with Computer Purposed and Controlled Reactor.
8. Investigation of the Role of Prostaglandins in Intestinal Parasitism of Lipids.

Faculty of Social Science
9. Long Term Unemployed and Preferred Work Values.
10. Development of Self-Regulated Activities in Downs Syndrome Infants.

Salaries £6,649 to £8,363 (2nd point) Salary £7,659 to £9,351.

Application forms and further details from: Sterling Office, The Polytechnic, Wolverhampton WV1 1SB. Telephone (0902) 710054 (24 hour answaphone service). HTT

University of London
Imperial College of Science and Technology
Rector Centre

RESEARCH STUDENTSHIP

Applications are invited from candidates who hold, or expect shortly to obtain, a good honours degree in physics or Nuclear Engineering for a research studentship tenable at Imperial College from 1 October 1983. The successful candidate will register for the Ph.D. degree of the University of London and will carry out research related to the physics of Neutron Interrogation Techniques in Explosives Detection with the Nuclear Physics Division in Dowes Harwell. It is expected that a considerable fraction of the experimental studies will be conducted at Harwell.

Further information and application forms may be obtained from Dr. T. S. Mischke, Imperial College, Silwood Park, Ascot, Berks SL5 7PY. HTT

University of London
Imperial College of Science and Technology

Research in Distributed Real Time Systems

Two SERC-funded research Assistantships to be held in a group working on Distributed Real-Time Systems.

The project objectives are:

i) To provide practical specification techniques for the behaviour of systems connected which communicate by message passing.

ii) To develop on-line software to be resident in systems for the control of large distributed systems.

Candidates should have a degree in Computer Science and experience in some of programming, real-time applications, specification techniques or language design.

The appointment will be for 2 years at a salary £4,947 to £12,207 including London Allowance plus USS.

Send c.v. with names and addresses of two referees to Dr. M. Sloman, Imperial College, London SW7 2BZ. HTT

University of Bristol
School of Education

RESEARCH ASSOCIATE

Applications are invited for a post as Research Associate to work on a Department of Industry funded project in the use of computer graphics presented result in teaching deaf children.

Applicants should be psychology graduates with a knowledge of teaching deaf children or teachers of the deaf with a knowledge of educational technology. The post is tenable for two years. Initial salary will be up to £9,495 p.a. Scale 1A.

Applications giving details of qualifications and experience, together with the names and addresses of two referees, should be sent by 18th July, 1983, to the Secretary, University of Bristol, School of Education, 35 Berkeley Square, Bristol BS8 1JA. Informal enquiries may be addressed to Mr. P. A. Kingsley Scott. Ref: 83/RA/2. HTT

JOINT MATRICULATION BOARD
Universities of Manchester Liverpool Leeds Sheffield and Birmingham

RESEARCH STAFF

Applications are invited for appointment to the Research Unit of the Joint Matriculation Board, which is one of the major GCE examining boards and is situated in the precincts of the University of Manchester. Applicants must have suitable experience in educational research, administration or teaching. Appointments may be made at either Senior Research Associate (£13,515–£16,925) or Research Associate (£7,190–£11,615) level in accordance with qualifications and experience.

The main duties will be to assist the Director of Research in planning, co-ordinating and supervising the Research Unit's activities and to carry out research.

Appointment may be made to the full-time staff but a fixed term contract could be offered should this be more appropriate in particular circumstances.

Further information and application forms from the Secretary, Joint Matriculation Board, Manchester M15 6EU.

Research & Studentships continued

The Open University
Faculty of Science

RESEARCH ASSISTANT IN THE DEPARTMENT OF PHYSICS

We are looking for someone with experience in programming Micro-computers, and possibly also with some knowledge of the design of interface electronics, to join a small research group engaged in microcomputer-based studies of the photophysics and photochemistry of organic molecular systems. It is intended that the successful applicant will be mainly involved in a project to incorporate a Sinclair microcomputer into the existing experimental system.

Applicants for the post, which is available for 3 years from 1st October 1983, should have a first degree (or equivalent) in physics, computer science, electronics, or some similar subject. Salary dependent on qualifications and experience, will be within the Research and Analogous Scale £6,411 – £8,340 p.a.

Application forms and further particulars are available from The Assistant Secretary (Science) (ST/53/3), The Open University, Walton Hall, Milton Keynes MK7 6AA or telephone Milton Keynes (0908) 653401/3893 (there is a 24 hour answering service on 0908 – 653868.

Closing date for applications, 19th July. H71

University of London
Goldsmiths' College
Department of Psychology

RESEARCH TUTORSHIPS

Applications are invited for 3 research tutorships from 1st September 1983. These posts are tenable for 3 years and involve up to 6 hours teaching per week, mainly tutorials and assisting with undergraduate laboratory classes. Successful candidates will be required to register for a Ph.D. within the department in which their interests in statistics and applied psychology are centred for.

Salary scale to be determined, but generally comparable after tax with that of postgraduate research grants. Candidates should have, or be about to obtain, a good honours degree in psychology.

Write for further details to the Senior Assistant Registrar (Personnel), University of London Goldsmiths' College, New Cross, SE14 6NW.

Closing date for receipt of applications 20th July 1983. H71

The University of Sheffield
Office of the Registrar and Secretary

ADMINISTRATIVE ASSISTANTS

Applications are invited from recent graduates wishing to embark upon a career in University Administration, for two posts in the office of the Registrar & Secretary. Tenable from 1 October 1983 or earlier if possible.

Initial salary in the range £6,510 – £8,580 a year (points 1–6) on Grade 1A. The Scale rises to £4,614 a year.

Expected age of candidates is to be about 27 years but older candidates not precluded.

Particulars from the Registrar and Secretary (staff), The University, Sheffield S10 2TN to whom applications (8 copies) including the names of three referees, should be sent by 1st August 1983. Quote Ref. R/583/31. H12

Colleges of Higher Education

Christ Church College of Higher Education
Canterbury

LECTURESHIP IN EDUCATION

Applications are invited for a Lectureship in Education. Candidates should be qualified in the area of Special Education Needs and have relevant experience, preferably at the Primary Level.

It is intended to fill this vacancy from the start of the Autumn Term, with consideration given to applicants seeking a temporary appointment only.

The College offers B.A., BEd and BSc degrees, PGCE advanced diplomas and higher degrees in Education.

Salary: Lecturer II/Senior Lecturer £7,215 – £13,443 p.a.

For further details write to the Principal to whom applications should be sent as soon as possible. H8

Colleges of Higher Education continued

College of St. Mark & St. John

Lecturer II/Senior Lecturer (£7,215–£13,443)

For September 1983 – Two temporary one-year posts, with possibility of permanent posts for suitable applicants. To contribute to the B.Ed. and new B.A. in recreation and Community.

Post 1 – Creative Design and Technology

General input required but experience of communication graphics and/or design welcome.

Post 2 – Recreational Studies

Major contribution to the Recreation and Community course with other inputs according to qualifications and experience.

Further details and application forms from the Principal, College of St. Mark and St. John, Derriford Road, Plymouth PL6 8BH. (Tel: 0752 777188.) Closing date – 15th July, 1983.

Head of Science and Technology (VI)

Salary £16,863 – £18,555 inclusive.

A Head of Department is required from January 1984 to lead a large combined department of over 50 teaching staff. Full-time and sandwich courses include TEC Dip Construction, TEC Higher Dip Electronic Eng, TEC Higher Cert Computer Technology and HND Mech Eng. Part-time courses include a wide range of TEC Higher Certs in Eng, Construction and Applied Science. Professional courses include MIBiol I & 2, GRSC Final, CIOB, IICO.

Send SAE for further details and application form to be returned within two weeks of the appearance of the advertisement to the Vice-Principal, Slough College of Higher Education, Wellington Street, Slough SL1 1YG.

Berkshire is an equal opportunities employer.

Slough College

Courses

POST GRADUATE DIPLOMA IN INFORMATION TECHNOLOGY

STARTING SEPTEMBER 1983.

A one year full time course studying design methods for complex software/hardware systems.

Entry Qualifications

Students should normally possess a U.K. degree in Electrical and Electronic Engineering **or** Computer Science **or** an appropriate technology-based, science-based or mathematics-based discipline, or other equivalent qualification.

SERC STUDENTSHIPS ARE AVAILABLE

Further details from Mrs. Jill Stern, Division of Electrical and Electronic Engineering, The Hatfield Polytechnic, P.O. Box 109, Hatfield, Herts. AL10 9AB.

THE HATFIELD POLYTECHNIC

Polytechnics continued

North Staffordshire Polytechnic
Department of Design

SENIOR LECTURER/ LECTURER II IN DESIGN/ GLASSMAKING

Senior Lecturer £10,683 – £12,558 (bar) Lecturer II £7,215 p.a. Lecturer II £7,215 – £10,683 (bar) – £11,568 p.a.

Applications are invited for the above post to assist the Senior Lecturer in Charge of Glass Design and Glassmaking.

Applicants should have a wide experience of flat glass techniques including fusing, sandblasting and similar cold glass processes. Candidates should be practising in this field of glass design and preferably should have established a reputation nationally through exhibitions of their work.

The glass course is one of four validated by the CNAA for specialisation in glass design and glassmaking leading to the award of BA Honours. It is one of ten specialised design areas which make up the multi-disciplinary design courses.

Application forms and further particulars may be obtained from the Personnel Officer, North Staffordshire Polytechnic, College Road, Stoke on Trent, ST4 2DE. Telephone (0782) 45923 ext 287.

Closing date for completed applications 13th July 1983. H1

Brighton Polytechnic
Department of Computing and Cybernetics

RESEARCH ASSISTANTSHIPS IN COMPUTING (2 posts)

Basic Education in Numeracy and Technology. Salary: £4,947 – £5,649

Persons appointed will work on the above joint project between Brighton Polytechnic and the Friends Centre, Brighton, which aims to develop the use of computers as a teaching resource for the education and training of disadvantaged adults. They will be part of a group of six teaching and research staff in the areas of numeracy, literacy, communication and social and life skills.

The researchers will be expected to develop a microcomputer-based scheme for numeracy and basic skills relevant to employment or further vocational training. For one of the posts an interest in the development and application of expert systems will be required. For the other a post-graduate with a background in computing applied to education, training, small businesses or cooperatives will be preferred.

The project is a part of the research work on the applications of Artificial Intelligence technology in the areas of education social welfare and training.

If you need further information, please contact Dr. R Gill on Brighton 693655, Ext. 2670.

For application forms please apply to the Deputy Head of Personnel, Brighton Polytechnic, Moulsecomb, Brighton, BN2 4AT. Tel. Brighton 693655, Ext. 253. Closing date 15 July 1983. H1

Administration

Education

Professional Assistant

(Southern Area)

Applicants should be graduates with teaching experience. This post should be of interest to teachers seeking an initial appointment in LEA administration.

The successful candidate will be based in Luton.

Salary Scale £8,568–£10,071 (NJC APT.C Scheme Points 31–36).

Essential user car allowance. Car loan scheme. Approved removal expenses paid.

Application forms and further details from D. P. J. Browning, MA, Chief Education Officer, County Hall, Bedford, or telephone Bedford 63222, Ext. 353.

Closing date – 25th July 1983.

The Council is an Equal Opportunity Employer.

Bedfordshire COUNTY COUNCIL

PUBLICATIONS LIAISON OFFICER

c£10,000 Kings Cross

Should be professionally qualified (or of graduate level) and have had several years experience in publishing, with a proven record of technical editorial work, applying current standards of practice.

Responsibility is to the Printing Services Manager for a wide and varied range of publications and material relating to technical education and industrial training.

Apply by sending a CV (or ring 01-580 3050 for application form) to:

Keith Jackson,
Personnel Officer,
46 Britannia Street,
WC1X 9RG.

City+Guilds

University of London King's College London Union of Students
Student Union Administration

UNION MANAGER

Applications are invited for the post of Union Manager tenable from 1 September 1983.

The Union Administrator will be responsible to the President for the organisation and daily to day running of the Students' Union which encompasses all the student services and amenities.

In addition to proven managerial experience in a similar or directly related field, applicants (30–50) should possess a sound financial background and some knowledge of computerised accounting systems.

Salary on scale £6,310 – £9,878 p.a. plus £2,186 p.a. London Allowance.

Further particulars relating to this post, and application forms, are available from the Student Union Office (tel: 01-836-7132) and completed applications are to be received by 12 July 1983 and addressed to The President, KCL Union of Students, Malcolm Building, Surrey Street, London WC2E 7EG (quoting reference 242363/TTES). H12

REMINDER copy for classified Ads in the **THES**

should arrive not later than 10am Monday preceding publication

Overseas

UNIVERSITY OF CAPE TOWN

School of Social Work

Senior Lectureship and Lectureship

Applications are invited for the above posts which are presently vacant.

Salary Ranges:
Senior Lectureship: R16 657–R24 045 p.a.
Lectureship: R12 657–R22 173 p.a.

Requirements: Senior Lectureship

A Master's degree or preferably a PhD, experience in university teaching and field instruction in social work plus a professional qualification in social work officially recognized or recognizable in South Africa in terms of the Social and Associated Workers Act (No. 110 of 1978).

Lectureship

An Honours degree, but preferably as for Senior Lectureship as above.

General

Besides undergraduate teaching in social work, the School provides education at graduate level in two specialisms, i.e. clinical social work and community social work (with emphasis on policy and planning).

Staff benefits include a service bonus of nearly one month's salary payable annually, 75% remission of tuition fees for dependants at UCT, generous leave privileges, a housing subsidy scheme subject to State regulations, pension fund, medical aid and group life assurance.

Applicants should submit a curriculum vitae, stating present salary, research interests and publications, when available if appointed, and the names and addresses of three referees whom the University may approach direct.

Further information may be obtained either from Mr J Hennings, SA Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar (Attention: Appointments Office), University of Cape Town, Rondebosch 7700, South Africa, by whom applications (quoting ref. no. E/368) must be received not later than 3 August 1983 in the case of the Senior Lectureship and 31 August 1983 in the case of the Lectureship.

The University's policy is not to discriminate on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable on request.

FSR 0368

Teach in North Africa

The Oil Companies School located in Tripoli, Libya, SPLAJ, requires Elementary and Junior High School teachers who are familiar with the North American education system.

Positions include:
CLASSROOM TEACHERS K-6, PRIMARY MUSIC, Grades 4-9 PHYSICAL EDUCATION, ART 7-9 and YEARBOOK

Five years of successful teaching experience preferred. Experience in ESL/EFL teaching situation would be of benefit.

Attractive salary and benefits.

Interviews will be held in London.

Send complete applications and telephone number to:-

JAWABY OIL SERVICE

UMM AL-JAWABY OIL SERVICE CO. LTD.,
33 Cavendish Square, London W1M 9HF.
Telex: 261443 Jawabi G. Attn: Roy Nash

UNIVERSITY OF CAPE TOWN

Associate Professor/Senior Lecturer in Religious Studies

Applications are invited for the above post vacant as from 1 October 1983. Appointment, according to qualifications and experience, will be made on the following scale:

Associate Professor R21 237 x 936–24 045 x 1 035–26 115
Senior Lecturer R16 557 x 936–24 045

In addition a service bonus of nearly one month's salary is payable annually. Staff benefits include a transport and moving allowance upon appointment.

Applicants should ordinarily be in possession of a doctorate and have research and teaching experience. They should be willing to share in undergraduate teaching as well as the Honours and Masters programme and to supervise Masters and Doctoral research students.

Preference will be given to candidates whose special interest lies in Christian Studies, including the history of doctrine and church and society, and/or Science of Religion, including the religion and society interface. Knowledge of and interest in Southern Africa will be a recommendation.

Staff benefits include a housing subsidy subject to State regulations, pension fund, medical aid and group life assurance, a 75% remission on tuition fees for dependants at UCT and generous study leave privileges.

Applicants should submit a curriculum vitae, stating qualifications, range of teaching and research experience, current academic interests, publications, when available if appointed, present salary and the names and addresses of three referees whom the University may contact direct.

Further information may be obtained either from Mr J Hennings, SA Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar (Attention: Appointments Office) University of Cape Town, Rondebosch 7700, South Africa, by whom applications (quoting ref. no. E/367) must be received not later than 22 July 1983.

The University's policy is not to discriminate on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable on request.

FSR 0381

Lincoln Institute of Health Sciences

SENIOR TUTOR IN PODIATRY

Applications are invited for the above post from suitably qualified persons. The position involves teaching all aspects of the curriculum for the undergraduate degree course in Podiatry, with particular reference to orthotic therapy, local anaesthesia and related techniques. Administrative responsibilities will include those of a year coordinator. The successful applicant will be required to develop continuing education programmes and show an active interest in implementing viable research projects; postgraduate studies are keenly encouraged. The School is of modern design and equipped with the latest facilities for implementing teaching programmes, research projects and audio-visual techniques. Computer facilities and appropriate software are also available in addition to a variety of diagnostic aids. The appointment will be offered either on a continuing or limited term basis.

Salary ranges: AU19,335–AU22,140. Travel costs will be met for overseas appointees, and there is an allowance for removal expenses. The Institute will also contribute to dependents' removal and travel costs. Applications in writing, quoting position No. 83/164, including the names of three professional referees, should be addressed to the Assistant Registrar, Lincoln Institute of Health Sciences, 695 Swanston Street, Carlton 3053, Victoria, Australia. Closing date 31 July 1983. Inquiries to Mr. C. Hyde, tel. (03) 347 2977. H13

UNIVERSITY OF NATAL
Department of Classics
Durban, South Africa

Applications are invited from suitably qualified persons regardless of sex, religion, race, colour or national origin for appointment to the post of:

LECTURER IN CLASSICS

Salary in the range: R12,657 to R22,173.

The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, a service bonus of 93% of one month's salary is payable annually.

Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions and travelling expenses on first appointment are obtainable from the Secretary, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE or the Registrar, University of Natal, King George V Avenue, Durban 4001, South Africa with whom applications, on the prescribed form, must be lodged not later than 1st August, 1983 quoting the reference D80/83.

Special Features 1983

AUGUST 12

Feature to commemorate the 13th Commonwealth Universities Congress at Birmingham (14-20 Aug.)

September 16

Reviews of New Journals in the Sciences

THE TIMES SUPPLEMENTS

RE-PRINT SERVICE

Leverhulme Report

A four-page edited version of the final report of the programme. First published in the *THES* 27 May, 1983. Price 25p.

Information Technology

A eight-page report on the latest development of IT in our universities, polytechnics and colleges. First published in the *THES* 17 June, 1983. Price 80p.

Education & Training for Employment

A further report on this very important area of education examines developments which have taken place since last year.
Available from 1 July, 1983. Price 70p.

All prices include postage and packing within the UK, but not hand delivery or Red Star delivery.

Enquiries about other reprints available should be sent to Linda Bartlett at the above address.

Telephone: 01-253 3000.

Please send me the following reprints:

Leverhulme – price 25p each ☐
Information Technology – price 80p each ☐
Education & Training for Employment – price 70p each ☐

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Address:.....
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The Times Supplements,
Priory House,
St John's Lane,
London EC1M 4BX.

Don's diary

Monday

Term is shuddering to an end. With one week to go my desk is piled about 12 inches high with examination scripts, unanswered letters and accumulated detritus of academic bureaucracy. I contemplate a mad, *Lucky Jim*-like gesture of setting a match to the lot. But the penalties for arson in Massachusetts are high so I reject that.

Instead I avert my gaze to my shelf of "books awaiting review". It is sagging under the weight of 19 books. I pick up one and discover it has been awaiting my review for nearly two years. I resolve to begin reading it this moment. The first three pages consist of acknowledgements to more than 100 of the more unpleasant and disreputable scholars in the field. The contours of my unfavourable review are just beginning to form in my mind when the phone rings.

It turns out to be a long-distance call from a highly distraught lady in Boise, Idaho. She introduces herself as the mother of a student in my class to whom I have recently awarded a grade of E (equals fail). She pleads that her son's record be amended to P (equals pass) on the ground that the lad's poor performance in the exam arose from distress at his father's running away with a younger woman.

While she talks I flip through the exam scripts on my desk and happen upon her son's effort. His essay on Gandhi's role as leader of the Chinese nationalist movement was no doubt influenced by the domestic tragedy. When she finishes I forbear from pointing out that if parental infidelity were to be the criterion of success in my class they would probably all be shining on the dean's list. Respect for what are evidently the sterner morals of Idaho restrains me. Instead I give her my standard answer (already rehearsed several times in recent days in reply to a succession of sob stories from students dissatisfied with their grades): the grade cannot be changed (bad news) but (good news) a grade of E (equals fail) is not counted as part of a student's overall grade-point-average.

This was one of the victories of the 1960s student movement apparently. This quirk of the system means that it is better for your record if you fail than if you get a grade of C or D. Thus comforted, the mother returns to her domestic miseries and I to my academic ones.

Tuesday

The annual salary row. This campus is not unionized so the annual salary rises are decided by the dean of the faculty on the recommendation of the chairman of the department. This year the dean's guidelines are that salaries should increase by between 4 and 6 per cent depending on "merit". Unfortunately the new chairman of our department has decided on a new policy of what he calls "equity". It soon appears that by this he means "equality" since his recommendation is that the poorer members of the department should get 18 per cent while the richer ones should get only 2 per cent.

A meeting of senior professors dissolves into fierce acrimony after three hours of debate with the chairman denounced as a "socialist" (and worse). I drive off recalling nostalgically how these matters are resolved in civilized fashion in Britain. Come back the Association of University Teachers, all is forgiven!

Wednesday

I decide to spend the day sequestered in the new university library building. I head for the microform section and start winding the spool of the Sheffield PhD thesis which is my main reading assignment of the day. I reach the beginning and am just about to start reading when a strange scurrying noise breaks my concentration. It seems to come from, inside the wall next to me. A sudden yelp or scream follows, also from behind the plaster.

A helpful library assistant rushes up to reassure me that this is quite normal: apparently a pack of racoons have found their way inside the heating or ventilation shafts of the building and all efforts to expel them have failed thus far. The alarming noises show no sign of abating and prevent me from concentrating. I give up my noble attempt to work and go and sit in the sun.

Thursday

Last faculty meeting of the term. About 200 present. Furious debate on a motion calling on the faculty to rescind the condemnation of the university president which they passed at the previous meeting. The president who retires at the end of the year (and whose last meeting this is) sits and listens impassively as his champions and detractors fight it out.

Eventually the faculty votes narrowly to rescind its previous condemnation. The meeting concludes with the chairman of the faculty senate (who had been in the forefront of the attacks on the president's supposedly frightful actions) delivering a farewell speech praising the president and all his works.

Friday

I'm exhausted after all this academic politics. I stay at home and mow the lawn.

Saturday

Drop in at the university to pick up the academic robes which the university has hired for me to wear at the commencement celebrations tomorrow. Miffed to find that instead of procuring the glorious colours of my distant British *alma mater*, they have provided me with an undistinguished-looking, sack-like garment with a zip up the front.

Sunday

Commencement. For some reason Americans insist on calling the terminal occasion of the academic year by this inappropriate name. Clad in my hired gown (which balloons up preposterously in the breeze) I join the academic procession into the open-air amphitheatre. About 10,000 people present, including the "Class of '83". Biggest moment of the day is when honorary graduand Mikhail Baryshnikov walks forward to accept his degree: the crowd cheers wildly and Baryshnikov seems almost ready to dance a *pas de deux* with the dean.

On the way home I stop off at my office to try to clear my desk. An hour of vigorous stuffing of the waste-paper basket disposes of most outstanding business. As I leave I decide to try a new tack on the book review problem. I pick up the most recent book sent for review and promise myself to finish the review within three days. My reputation for speed and efficiency thus restored (at any rate in my own mind) I head away from the campus. It has been an unusually productive week.

Bernard Wasserstein

The author is professor of history at Brandeis University in Massachusetts.

Learning without handicap



Tessa Blackstone

One of the most moving experiences I have had recently was in a *scoula media* (or middle school) in Rome. The school is situated in the centre of the city with a view of Roman walls from its windows. It is in an old building which by British standards is poorly maintained and badly equipped. Paint is peeling from the walls, the windows are dirty; the furniture is old and often broken. There is a small library with a few ancient and ragged books locked away in large glass-fronted bookcases.

A tiny courtyard serves as a playground and is the only place where the children can have any physical education. A volley ball net is strung across it from wall to wall, so that the boundaries of the court are the classroom walls on either side. Although the school's pupils are aged 11 to 14 there are no science laboratories. The whole place has a decrepit and tatty air about it. Moreover the classrooms are small and overcrowded; one class has to receive its education in a partitioned-off corridor.

Inside this seemingly unpropitious environment there are, however, some remarkable things going on. While the buildings and equipment leave a great deal to be desired, it is what the Italians call an experimental school which is innovative in several respects. It is the best demonstration I have seen for a long time that it is the human resources that really count. While most Italian schools end at lunch time, this is a full-time school which continues until five in the evening. Priority is given to children from families with social needs who tend to come from outside the district. But it is a socially mixed school also serving the needs of middle-class families where both parents are working.

While the teaching staff work different hours to those in conventional schools they do not work longer hours because there are more of them. In a period of teacher surplus perhaps this might be tried here? Extending the school day in some nursery and primary schools by having a more generous pupil-teacher ratio in order to help single parents and working mothers is something I have advocated before, but it has only been tried in Britain on a very limited scale.

While Italian schools appear as a general rule to be rather poor at providing pastoral care, advice on the next stage of education and career guidance, this school has made special efforts in this area. There is nothing remarkable about this from the British point of view. Here it is doing what most good schools in the UK would take for granted. The difference lies in the use of parents, who come into the school to talk about their own jobs to groups of children. Again I have advocated before greater efforts to involve parents particularly at the secondary level, in advice and discussion about different occupations. Of course this involves effort and organization, of course not all parents will want to participate in this way. However, these arguments are not covincing enough to abandon the idea.

The Italian middle school, like all Italian schools, is governed by a council consisting of parents and teachers (and in the secondary schools pupils too). Each form also has a class council consisting of elected parents and pupils and the form teacher. These bodies meet regularly. Thus there is more opportunity than in most British schools for teachers to get to know at least some parents quite well and to find out what their skills and interests are and whether or how they might contribute to the life of the school.

Perhaps as a consequence, the school I visited was also using parents to teach small groups of children in special areas outside the normal curriculum. One mother, who is an archaeologist, was working with a group of 12-year-olds on the origins, growth and development of Rome, using maps and old prints, which the school had photocopied for her. A computer scientist was coming in to give extra tuition to the pupils on the basics of computing. Could we involve quired through the film or television screens and thus of no worth whatsoever.

more parents in extra-curricular activities of this kind outside normal school hours in Britain?

It was, however, in another area that this school was most memorable. By law, handicapped children are integrated into the ordinary schools in Italy. For several years now they have been doing what the Warnock report has recommended in Britain, but which is a long way from being implemented. In this particular school I observed three handicapped children in different classes.

The first was a stone-deaf 13-year-old girl, who apparently had little speech when she arrived at the school two years earlier and was shy and withdrawn. She was by contrast now talking fluently, outgoing and completely accepted by the other children in the class among whom she had several close friends. All this had been accomplished by assigning an extra teacher to her class for part of the day to give her special help, by the readiness of other pupils to help her and by her own determination.

The second was a boy with Down's Syndrome who worked in an ordinary classroom with a specially assigned teacher, who was able to read and who proudly showed me his exercise book full of writing. Some of the other children sometimes worked in small groups with him and the extra teacher. This is one of the means the Italians have used to provide extra remedial help in a system where remedial education is poorly developed.

The third child was an autistic girl. She was severely disturbed. Virtually unable to communicate with other human beings, the only sounds she made were grunts and whines, screwing up her face in apparent misery. The children took it in turns to sit next to her and they also helped her eat her school lunch and took her to the lavatory.

All this was achieved in a poor building without any special facilities. There was no lift, merely a ramp to deal with steps at the entrance for those children who are wheelchair bound. Since these children could not reach the second floor, arrangments were made to teach them on the ground.

Clearly this is not an ideal situation. Nevertheless, the Italians have decided it is better to manage for the time being with makeshift arrangements that to shut away handicapped children in special institutions, denying them contact with their more fortunate peers, and preventing the latter from learning to love and care for other children less privileged than themselves. Buildings matter, but this school demonstrated that some of the deficiencies can be overcome.

Reflections of a literary Don Quixote

Last spring I retired as professor of English literature after five years in a large state university on the east coast of America. Prior to that I held a chair of English at the University of Durham for almost a decade and before that I taught for some 20 years in the United States at various colleges and universities, ivy-league and non-ivy-league.

A latter-day Don Quixote, I sought unsuccessfully an institution of higher learning whose ideals I could respect and where I could pursue my career in an atmosphere of civilized aestheticism introducing the young to those eternal verities embodied in enduring works of English literature. Of course, the goal was never realized, but in the disheartening progress I assimilated many impressions bearing upon the teaching and studying of English literature in British and American universities and colleges.

Since my return I have been the recipient of many a well-intentioned inquiry about my career, although the pronouncement that one was once a university professor of English is often an effective terminus to conversation. When, however, it transpires that most of my teaching was in the United States the responses are sadly similar in their manifestations of ignorance and unawareness. The common gambit is: "I expect you find the standards horribly low over there" or: "It must be a bit of a caper" or, as the wife of a Durham University professor remarked: "After ours it must be very simple." Such responses are disheartening, of course, as one must conclude that notions of American higher education are ac-

Teaching English literature in America at graduate and undergraduate levels can be, and in the main is, an exhilarating experience. Of course, many more people proportionately attend institutions of higher learning in the United States than in England and that can on occasion lead to a distinct modification of standards. On the other hand, it allows many young men and women of marked ability who would not otherwise see the inside of a university to benefit from what the institution offers.

Indeed, a heartening aspect of teaching in America is the zeal and enthusiasm with which many students approach their discipline. At the post-graduate level this is particularly apparent as a seriousness of concern, a professionalism, which is instilled into candidates from the beginning. If those candidates comes well prepared, as they can from a number of lesser colleges and universities across the country, they will at, say Yale, Berkeley, Columbia, or any of a dozen other such places, get ahead like a house on fire.

Of course, there are detrimental aspects of American graduate training in all disciplines, especially English literature. Foremost is the ridiculous stress, amounting to mania, upon publication. The cascade of articles and books, many quite worthless, that pour from typewriters attests to this misguided drive.

Again, people compete furiously for fellowships, adjudication over which the number of articles and books – their quantity rather than their quality – too often plays a determining part. And, most serious of all, some graduate students and junior faculty neglect their classroom responsibilities in order to impose upon a limited audience their ephemeral interpretations of, say, a novel by Lawrence, a poem by Donne, or an essay by Johnson.

Hovering in the background, too, is the administration, a disgracefully powerful bloc in American academe, forever blindly pushing for publication. During my state university days I used often to wonder what state legislatures would do if they knew how strongly publication was stressed at the expense of what should be primary in all classrooms: the teaching.

On the other hand, American graduate training in English literature, warts and all, can supply a valuable foundation for aspiring teachers. At many universities there still remain, although their ranks have thinned with the years, a number of senior teachers, men and women, who give of their best in the seminar and lecture hall as well as of their own private time. These gifted people continue to convey the life and vitality of literature to their students; furthermore, they can supervise and temper stringent, constructive criticism with human understanding. Above all, they lead neophytes to an awareness of the boundless significance of their calling; and their perspectives, shaped by reason yet instinct with critical perceptions, render the seminar and lecture uniquely rewarding. In such respects the American graduate and undergraduate training seems frequently superior to its British counterpart where the hapless student is quite often left too long floundering on his or her own.

J. L. Bradley

The author has recently retired as professor of English literature at an American university. He was previously professor of English at Durham University.

LETTERS TO THE EDITOR

How the two-year degree could serve a double purpose

Sir,– Dr Perry is right (*THES* June 24). The amount of knowledge around is increasing rapidly – so much so that no individual can hope to be acquainted with more than a tiny part of it, and many of the details of what anybody learns are out of date within a few years. A central function of higher education is the determination of how different chunks of knowledge are to be parcelled up.

Current views about the desirable length of initial courses range from zero (among extreme protagonists of recurrent education) to a very long period (among those who believe that the science of "x" is not really worth learning unless the student has learned to think like a practising research "x" ologist). Even a moment's reflection suggests the improbability that the same initial length of course will be appropriate for all students or for all subjects, yet in England we offer most students only one package – five years of increasingly specialized full-time study between the ages of 16 and 21.

This is too much and too narrow for many graduates who lack the ability to see how their specialist knowledge relates to the specialist knowledge of other people (such as engineers who are unable to write the kind of policy paper that would enable them to be taken seriously as contenders for management positions). It is too little for some others who need to spend a period in one of the great research orientated graduate schools in the United States before they can be said to have fully mastered their subject. Yet we gear most of our finance of institutions and students to this A level-specialized honours degree package.

A two-year, relatively unspecialized, pass degree would be a terminal qualification for some students but many others would build on to it specialist skills in particular areas of academic interest or vocational need.

If properly designed, such courses would enable students to develop an awareness of the principles of a broad disciplinary area and some of its links with other areas of knowledge that would enable them to add new specialist knowledge as it became relevant to their evolving needs and interests throughout their lives.

Incidentally the Scottish system got slightly metamorphosed in its trip to the Antipodes. The Scottish ordinary degree is taken after four years of post compulsory education (one in school, three of fairly general study in university). A basic two-year pass degree course in England with an array of subsequent specialist opportunities would be not an irresponsible step in the dark but a move towards a tried and tested system where, on the whole, the separation between universities and the society they serve is less sharp than in England.

Yours sincerely,
GARETH WILLIAMS,
Director, Institute for Research and Development in Post Compulsory Education,
Lancaster University.

Police prejudice

Sir,–The essays on "Blacks in Britain" written by recruits at the Hendon police cadet school and released to the press by John Fernandes reveal a disturbing level of anti-black prejudice. The examples published in *The THES*, are, however, considerably milder in tone than some of the comments on "Coloured Immigration", written by relatively experienced probationer constables in the Midlands, which emerged from a controlled investigation by me and Paul Gorman (*Sociology*, 1982, vol 16,pp 1–11).

Among the comments elicited in our study were these: "The majority of youths of the West Indian community are savage ignorant vicious thieving bastards"; and "Over 50 per cent of trouble caused today either is by niggers or because of them. Most of them are just dirty, smelly, backward people who will never change in a month of Sundays. In my opinion most niggers especially Rasters should be wiped out of the district [sic]".

Professor Rosen is quoted in your article as saying that "either the selection process tends to pick up people ... already having racist views, or their experience in the police leads them to have racist views". Our research, based on a rigorous comparison of experienced probationers, raw recruits, and a matched control group of civilians, provided evidence that the selection process tends to pick up authoritarian personalities, *and* that experience on the job tends to exacerbate racist attitudes.

Yours faithfully,
ANDREW M. COLMAN,
Department of Psychology,
University of Leicester.

Distance education

Sir,– In writing about the new degree courses being offered by Pune University, your correspondent (A. S. Abraham) introduced his short report with the comment "Distance education has arrived in India." This statement will come as something of a surprise to those who have any familiarity with the history of such developments in that country over the last twenty years.

Correspondence education (the term still retained even when other media such as radio are also employed) in fact dates back to 1962 with the establishment of a School of Correspondence Courses and Continuing Education at Delhi University. With rapid expansion, particularly in the 1970s, 26 conventional universities (plus several colleges of education and other institutions) now have correspondence institutes offering courses mainly in arts and commerce at degree level to over 100,000 students per year.

Whatever novelties there may be in the University of Pune's scheme, the implication that it marks a major innovation in Indian university provision is clearly misleading.

Yours sincerely,
RONNIE CARR,
Staff Tutor in Education,
The Open University in Scotland.

Correction

THE last sentence of Professor Marcus' letter on architecture published in the issue of June 17 was printed incorrectly. It should have read: "Significantly too, he disparages "contemplative activity", which produces ideas – that challenge – in favour of "action", which produces objects – that are mute and remain comfortably still."

Abolition of slavery

Sir, – I write to correct a trifling, but potentially confusing typographical error in David Richardson's succinctly interesting article on William Wilberforce (*THES*, June 24).

The "lesser known abolitionist" who piloted the slave trade abolition bill through Parliament in 1807 was James Stephen, not Stephens. Born in Poole, Dorset in 1758, Stephen, a lawyer by profession, became an MP in 1808 and a Master in Chancery in 1811. He was Wilberforce's brother-in-law, a member of the so-called Clapham Sect, and a friend of Prime Minister Spencer Perceval, who was assassinated in 1812. As a supporter of Portland's and Perceval's governments, he had some influence upon the famous series of orders-in-council which helped to bring on the war of 1812 with the United States.

The 150th anniversary of James Stephen's death passed unnoticed last year, though his contemporaries reckoned him a major anti-slavery leader. In addition to his great contribution to the abolition of the British slave trade, Stephen was a key figure in the African

Girls' education

Sir,– This is a plea to all those who are concerned with choosing a new head for girls' schools to give serious thought to the criteria which should be used in making the selection. The plea is also relevant, though to a lesser extent, to those responsible for selecting heads for women's colleges. It is based on experience gained while tutor, and later president, of Lucy Cavendish College, Cambridge, a young college particularly concerned with the career patterns of women and the problems involved.

Recent studies have shown that there is much under-representation and under-achievement of women in the universities of this country and the same seems to be true in other spheres. There may be a number of reasons for this, but many people now believe that not enough stimulus is given to girls of school age to aim high and that lack of confidence also means that they do not give of their best. It is also widely believed that the increasing number of appointments of men as heads of girls' schools and women's colleges is seriously damaging women's careers. The damage is brought about in two ways. First, the proper career structure for the staff is destroyed because the number of headships is reduced. Second the confidence of the girls in themselves and in women in general is lowered.

Certainly those responsible for appointment must choose the person best qualified for the job, irrespective of sex. The difficulty is, in the case of girls' schools, to decide what the qualifications should be. Experience and administrative ability, the normal attributes, are always important, but may not the stimulus given by a particular type of leadership be even more valuable where girls and women are concerned? At the present time such leadership, which includes personal example, can, I believe, only be given by a woman.

Yours faithfully,
C. KATE BERTRAM,
Ricardo's,
Graffham,
Petworth, Sussex.

Nuclear scientist's dismissal

Sir, – We, as academic researchers, are extremely disturbed to hear of the fate of a fellow researcher, a senior nuclear scientist, Dr Ross Hesketh, who has recently been dismissed by the Central Electricity Generating Board (CEGB). His former employers state that the reasons for Dr Hesketh's dismissal are, *inter alia*, refusing to move laboratories in an internal reorganization, and Dr Hesketh's speaking to the press after a clear warning not to do so. However, there is clear evidence to suggest that the crucial reason for Dr Hesketh's dismissal by the CEGB is his outspoken views on the question of the bartering of CEGB plutonium with the United States under a military agreement. We understand that Dr Hesketh is a supporter of civil nuclear power – but not of its aiding nuclear weapons programmes whether in Britain or the United States. He is properly concerned that the distinction between civil and military nuclear programmes be clearly maintained.

The evidence suggests that it is Dr Hesketh's persistence in this aim that has caused his dismissal. This should be a warning to all researchers in science and in technology, whether academically employed or otherwise that speaking out of turn on matters of conscience (Dr Hesketh is a Quaker) is a dangerous step to take.

We are appalled that Dr Hesketh should now be unemployed for publicly discussing matters which are clearly of great importance. The British scientific community has a fine record of supporting dissident scientists in other nations. We call for similar support for Dr Hesketh. Time may be of the essence in this case.

Yours faithfully,
ALAN REDDISH,
DAVID LOWRY
S. J. SMITH
T. ORESZCZYN
J. GILL
MARK BARRETT
ROBERT LOWE
CATHERINE LIPPOLD
BARRIE JONES
Energy Research Group,
The Open University.

Application deadlines

Sir, – Either the time is out of joint – oh cursed spritel or someone in your advertising department has thrown – and is continuing to throw – a wobbler and entered a timewarp. Or universities, polytechnics and colleges are taking unemployed academics for an unpleasant joyride.

I refer to several posts which have been recently advertised in your pages where the deadline for applications is so close to its appearance, it's a laughable futility. Some of the closing dates from your issue of June 10; June 20; June 24; June 18; oh, another June 20.

Let me do some hypothetical sums. I receive the *THES* on Friday. The first thing I do is look for the classifieds. I proceed to type out brief letters requesting details, forms, plus whatever ephemera. Morning of June 11, walk down to "new" post office. All requests go first class: have to be there before 10.30 am – otherwise waiting in box till Monday.

Replies trickle through.

Long forms to fill in. Details of cv Recent written work. Covering letter. And so on. No cheap efficient copyshop in this area, therefore have to resort to dubious, sleight of hand and waving of notes – from my dole. Either that, or do a stint of close on ten hours or so at a secondhand portable Olympia.

Please tell me, why are these deadlines so impractically short? University, college and polytechnic mistiming? An indication that the job – like the old Jewish tailor's best suit was always "previously bespoke" – usually for a nephew. Or due to the ineptitude of your own advertising department. I don't think it's the latter. But I'd like to accuse the former. And I hope that this letter at least gets somewhere. Like into print.

Yours sincerely,
GRAHAME WHITE,
The old Post Office,
Feock,
Truro, Cornwall.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Visual studies degrees

Sir, – For the record St Martin's School of Art's new part-time degree in visual studies is not the first in the country (*THES* June 10).

Sheffield Polytechnic has a part-time degree in fine art now completing its first year of operation and Humberside College of Higher Education part-time honours degree is visual studies was validated by the Council for National Academic Awards in December 1982.

The Humberside course has a studio based route with options in painting/printmaking or sculpture with joint units in drawing and art history and a documentary route which links the study of documentary photography and film with media and social studies. Recruitment is nearing completion for the October 1983 start.

Yours faithfully,
MARTYN CHALK,
Course leader,
Visual studies part-time degree,
Humberside College of Higher Education.

Union View

A place for research

Even before their designation, the place of research in the polytechnics was a subject for disagreement. This situation was not helped by many and varied interpretations which were put on the famous "Appendix B" of the Administrative Memorandum under which they were established. It has been made worse by subsequent events.

As early as 1974, the Council for National Academic Awards published its "Rochester Report" which argued the case for research in the institutions where they were required to validate courses. And then, when the Merrison Committee was set up to make the case for dual funding of university research, the CNAA set up its own working party to review "Rochester": this working party has yet to report. A common theme which is now heard is the fear that, under financial restraints, it is the research/scholarship acitivities which will be curtailed.

The case for research in polytechnics and other higher education colleges is clear. They are expected to teach for degrees and higher degrees: their level of scholarship and hence their standard of research must be comparable with those of universities. For this to occur, the public sector must be able to compete on equal terms with the universities for research funding. On any criteria this is not possible at present: the University Grants Committee funds research at about 30 per cent of total budget without judging either the quality of the projects or the capabilities of the institutions beforehand, this being outside their expertise.

APT

Contrast this with the public sector in which the teaching load is high, the research support from local authorities variable, and the priority is for cutting the areas of scholarship before those of teaching when there is any reduction in the advanced further education pool and there is a recipe for significant inequality. Couple these facts with the underrepresentation of the public sector on grant awarding bodies and it becomes even clearer why some protection of their level of scholarship is necessary.

The interest of the National Advisory Body in this subject has resulted in the publication of a discussion document, *The Funding of Research Activity*, in which it seeks the views of interested parties. The general issues of this document concern the definitions of research activity which it divides into updating study, research and consultancy. The specific proposal is that a precise proportion, between one and six per cent, of the advanced further education pool should be earmarked for the first two named activities.

What is not apparent in the NAB document is the interdependence of the three categories upon each other. Thus, for example, updating study means assimilation of the latest developments in a field of teaching: this can mean updating in subject matter or techniques, or in methods of teaching, all of which come about as the result of research activity; yesterday's research finding is today's updating. Consultancy, too, depends on proven research ability: publication of research findings, public lectures and conference papers are the prime measures of this ability. It follows that, while the division into three categories may be useful as a first-order measure, none can exist without the others.

What is really required is a truly adequate level of funding for research activity on a par with universities which would be included within the unit of resource.

Nevertheless, the fact that NAB has produced this paper is, in itself, a recognition of the importance of research within polytechnic and similar colleges and of its need to be protected from the ravages of cuts in public sector funding.

B. E. Davison

The author is chairman of the Association of Polytechnic Teachers research panel.